AMERICAN JOURNAL OF

PUBLIC HEALTH

and THE NATION'S HEALTH

PREPARED IN TWO PARTS
PART I

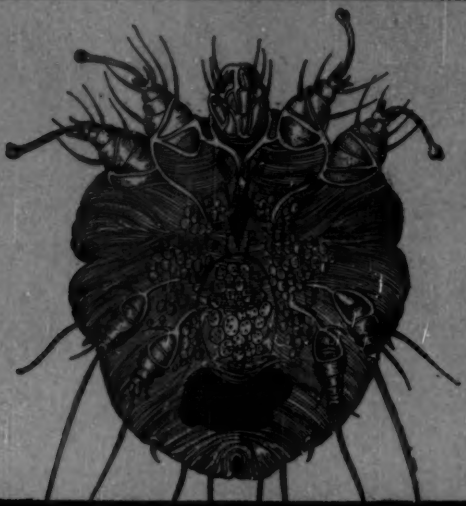
The 77th Annual Meeting, New York, N. Y.
October 24 - 28

Volume 39 MAY, 1949 Number 5

Published Monthly at 374 Broadway, Albany 7, N. Y., by the

AMERICAN PUBLIC HEALTH ASSOCIATION

1790 Broadway (at 58th Street), New York 19, N. Y.



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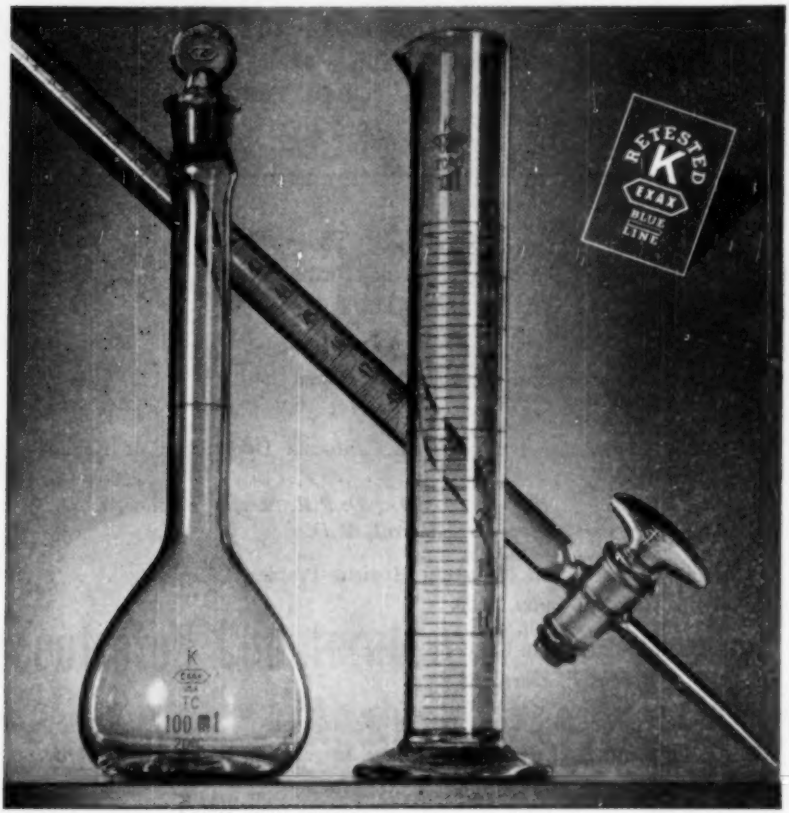

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Official Monthly Publication of the American Public Health Association

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Published by the American Public Health Association at 374 Broadway, Albany 7, N. Y.
Executive Office, 1790 Broadway at 58th St., New York 19, N. Y.

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Address correspondence regarding editorial contents and manuscripts to C.-E. A. Winslow, Dr.P.H., Editor, 1790 Broadway, New York 19, N. Y.

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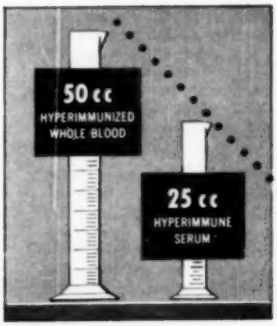

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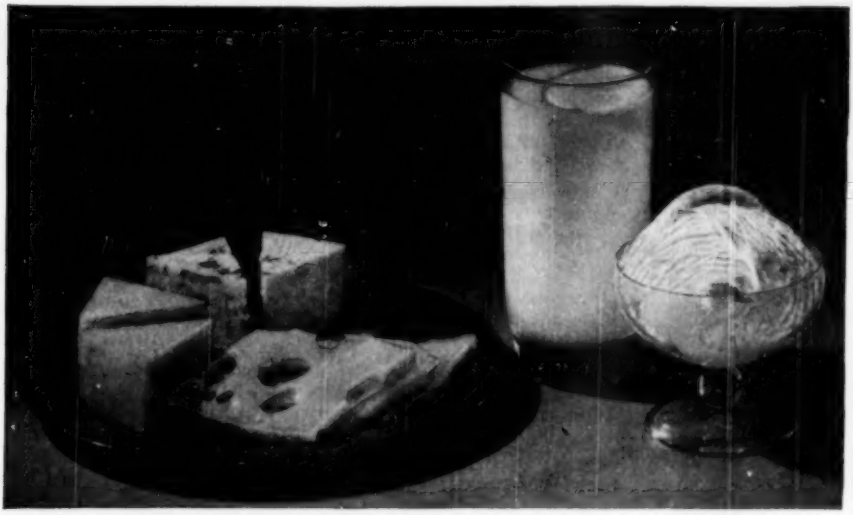

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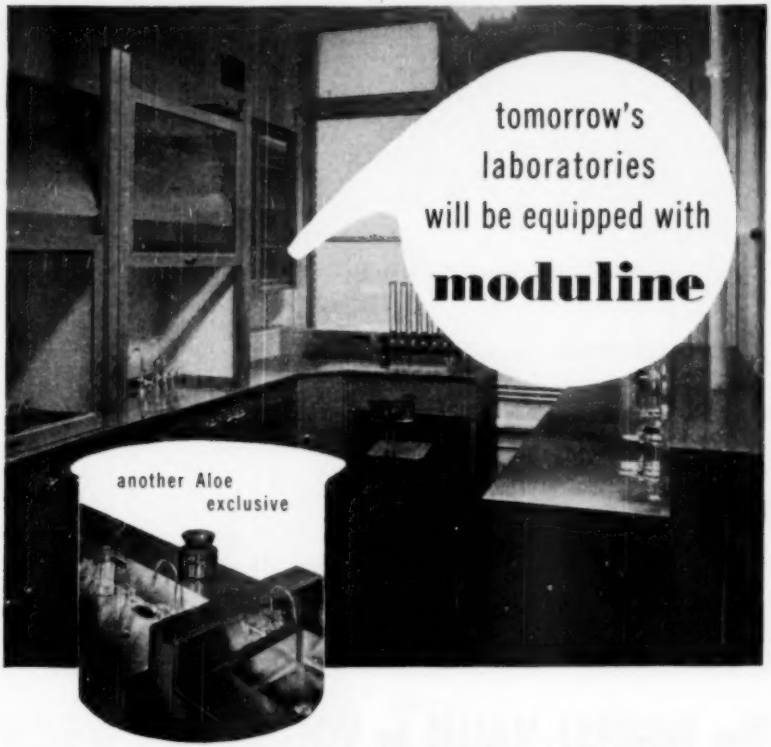

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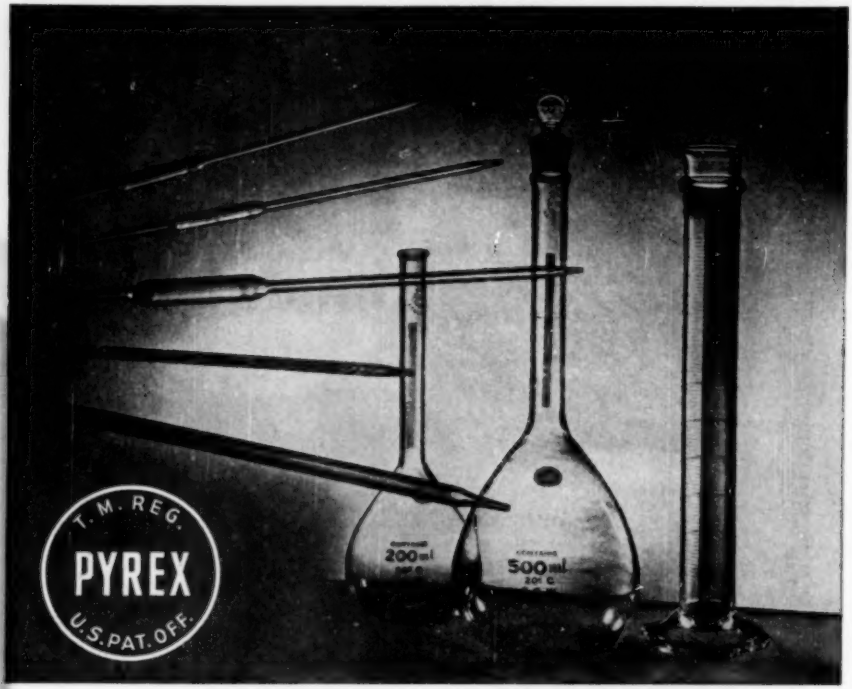

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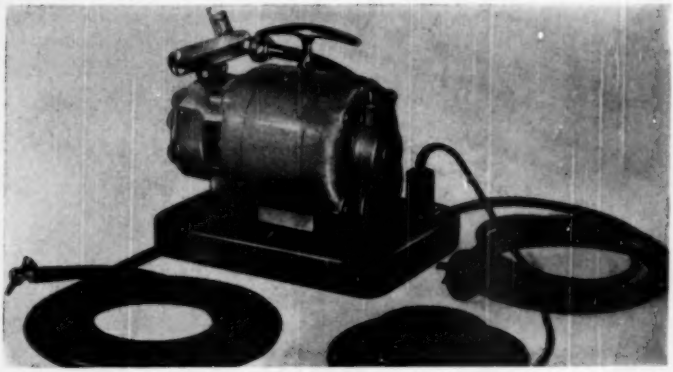

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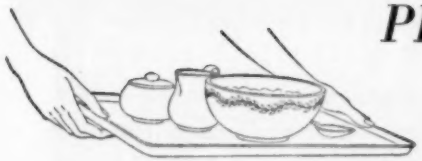

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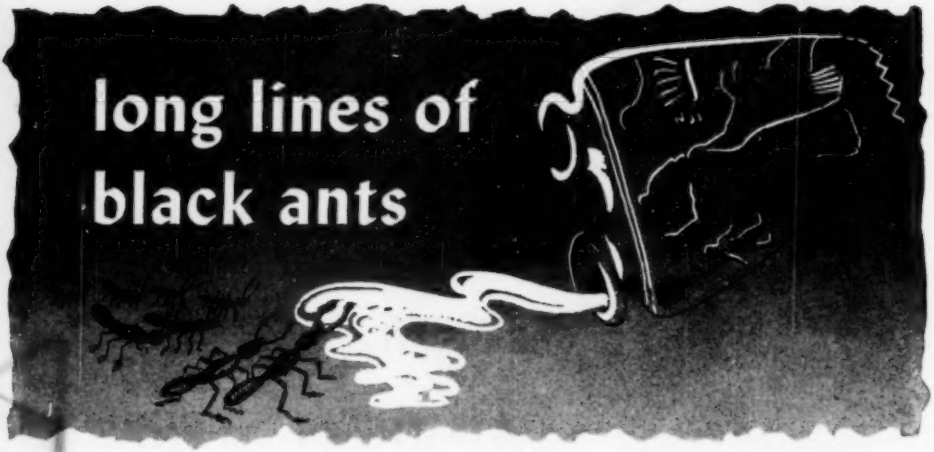

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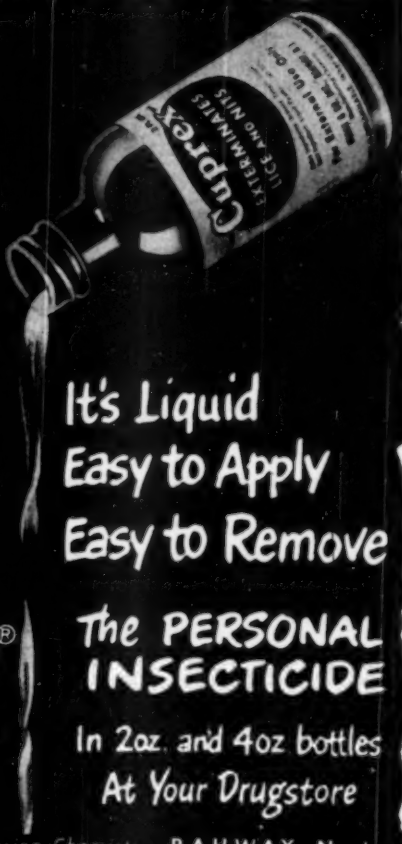

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* 1. Cannon, A. Benson, and McRae, Marvin E.: Treatment of Scabies, J.A.M.A. *138:*557 (Oct. 23) 1948.

2. Wooldridge, W. E.: The Gamma Isomer of Hexachlorocyclohexane in the Treatment of Scabies, J. Invest. Dermat. *10:*363 (May) 1948.

3. Niedelman, M.L.: Treatment of Common Skin Diseases in Infants and Children, J. Pediat. *32:*566 (May) 1948.

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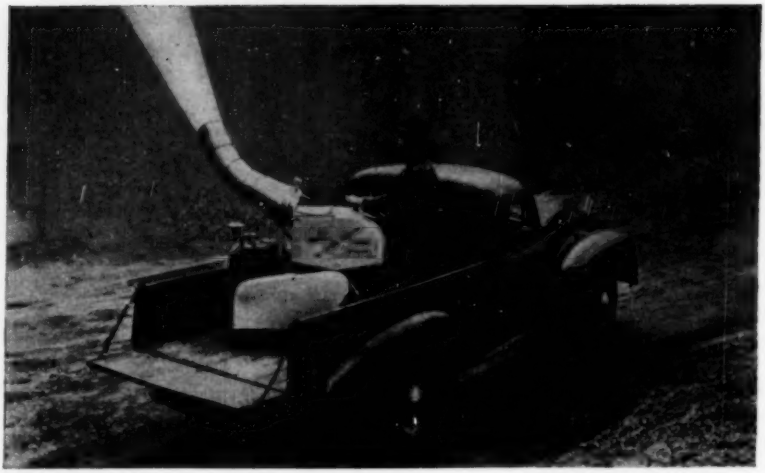

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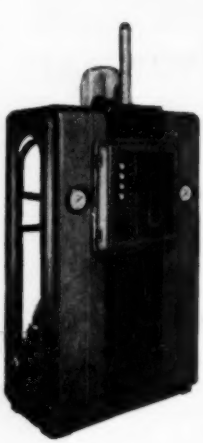

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American Journal of Public Health
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Volume 39 May, 1949 Number 5

Recent Observations on the British National Health Service

HUGH R. LEAVELL, M.D., DR.P.H., F.A.P.H.A.

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THE British National Health Service is neither as bad as painted by those who fear compulsory health insurance in the United States, nor as good as the British medical profession and the Ministry of Health would like to see it and hope it will become. We in the United States can learn much from this experiment now being conducted almost under our eyes, if only we can look at it without emotional blindness. While the problem of the British is in many respects not comparable to our own, there are certainly sufficient similarities in background and outlook to make their experience valuable to us in developing our own plans for more adequate medical care. Failure to see defects in the present British situation, however, may be almost as dangerous for us as would be acceptance at their face value of many current misrepresentations which are the despair of officials of the British Medical Association.

This note is in no wise intended to be an exhaustive study of the British system, but represents a report on a recent (February, 1949) appraisal of the situation with the hope that it may be useful to us in the present tense atmosphere in which discussion of federal medical care proposals is taking place. The writer was in London for a year during the war with opportunities to see existing physical facilities and get a picture of medical practice as it was carried on prior to the National Health Service Act. During the summer of 1947, nearly two months were spent in Great Britain after passage of the Act during the stages of planning for its operation. During the first two weeks of February, 1949, a third visit was made, concentrating on aspects of the Service where difficulties were reported to have arisen. Practitioners, medical society representatives, and public officials concerned with operation of the Service were asked to give their frank reactions; to point out where snags had arisen and where certain services had not developed entirely as expected. Attempts were also made to determine reactions of the general public to the plan by talking to the "man in the street" on the street and wherever else he could be induced to talk.

Before forming our judgments, certain

important concepts must be borne in mind. The broad, basic principles of the plan are generally accepted by the Conservative party as well as the Labor party. The British Medical Association also supports them as it has for a number of years, since it recommended broadening the old insurance system set up by Lloyd George in 1911–1912. Voluntary hospitals were rapidly going bankrupt and realized the necessity for government support. The several Spens Committee's proposals on compensation for varying types of practitioners have met with general acceptance.

The existing situation must also be judged on the basis of practices and standards prevailing prior to the appointed day, July 5, 1948, when the new Act became effective, rather than using current American customs of practice as our sole criterion. For example, even in the past, general practitioners had little practice in hospitals and used nursing homes for private patients requiring hospital type care. They usually had little auxiliary help in the way of clerks, nurses, or technicians in their offices, and few had laboratory services readily available for their patients. Nearly half the population was covered for general practitioner services only under the insurance scheme for employed people below a specified income limit. About one-third of the general hospital beds were in voluntary hospitals and two-thirds were operated by local governmental authorities. The wartime Emergency Medical Service developed a skeleton regional plan of hospital organization, but much of this had lapsed following the end of the war. Local public health authorities were generally responsible for running the local governmental hospitals, and services in a number of areas, especially London, had shown great improvement over conditions in these hospitals prevailing when taken over in 1929 from the Poor Law Guardians. Dental conditions among the general public were notably poor. Dentists were relatively few and even many of those licensed were more or less irregular practitioners blanketed in when the long delayed licensing programs became effective. Great numbers of people procured their eyeglasses from 5 and 10 cent stores without benefit of skilled eye examinations.

The present plan is not really an insurance scheme, since only about 10 per cent of the costs are paid by earmarked contributions from individuals and their employers; the remaining costs being paid out of general tax revenue. Participation of doctors and citizens under the new plan is entirely voluntary and provision is made for the continuation of private practice. The hospitals, however, are now essentially all owned by the government. Scotland and Northern Ireland have separate though similar schemes from England and Wales. A last, but by no means unimportant, point to be borne in mind is that it is still entirely too early really to judge the success or failure of the new plan which has not yet had even a single full year of operation.

The administrative structure itself would be considered unwieldy by American standards, but despite its complexity, it may be that the British will make it work. Four administratively distinct units render services at the local levels: The regional hospital boards (14 in England and Wales—responsible for hospitals and specialist services); the teaching hospitals (36); the local executive councils (responsible for general practitioners; dentists; pharmaceutical, and supplementary eye services); and the local public health authorities (responsible in addition to usual public health activities, for ambulance service, the provision of health centers, home nursing service—much of which was formerly the primary responsibility of voluntary agencies—domestic help in the home and "after care"). Each of

these four types of administrative units is responsible to the Ministry of Health, but there is *no* authoritative local coordinating unit.

Let us now examine the four branches of service to see where difficulties have arisen up to the present time. The teaching hospitals are administratively under regional boards in Scotland because the Scots consider them such an essential part of the regional hospital system that they could not be separated. In England and Wales, it was thought important to maintain as much autonomy for the teaching units as possible. All medical schools are full, with long lists of applicants for admission. There is no indication that young men are being deterred from going into medicine because of the new Service.

The regional hospital boards are composed of persons outstanding in the community, and have not been stacked with political appointees. Each board has a medical executive officer of high quality; many having been drawn from public health ranks. Functioning under each board are a number of hospital management committees, each with a lay executive secretary. Each committee is responsible for 8 to 10 hospitals—general, specialized, chronic and convalescent. These groups of hospitals are being integrated into hospital systems more or less complete in themselves, except that at present mental hospitals are operated by the regional boards as a somewhat separate system.

All services of specialists are under the direction of the hospital management committees and the regional boards. Neurosurgery, thoracic surgery, and plastic surgery are usually handled on a regional basis. There are no certifying boards for specialists in Great Britain at present and none are contemplated. However, a committee in each region is now reviewing qualifications to determine which men are actually specialists, and dividing them by grades of seniority. This process is to be completed by July 5, 1949, and new contracts and salaries will be based upon these reviews. A National "Awards" Committee is establishing lists of outstanding specialists who will receive additional compensation. Tables of organization are being developed to specify how many specialists of each type are needed for a given number of hospital beds and population groups. Many specialists are working on a part-time basis, because if even a small portion of their time is devoted to private practice income tax reductions are allowed for costs of operating automobiles, offices, etc.

Clinical pathological services are provided in the hospitals and are available to general practitioners only on a consultation basis at present. Patients may not be referred simply for certain laboratory services, but must be sent to a medical member of the hospital staff who determines whether or not laboratory services are considered necessary. This approval is automatic and simply constitutes a complicating administrative factor. Budgets now being presented by the regional hospital boards show considerable increases over previous operating costs. Numbers of new specialists are being requested and salaries for nurses and other personnel have increased a good deal. There is much deferred maintenance accumulated during the war years, and new buildings are being sought. It seems that the regional hospital boards in this first budgetary process, are "testing" the Ministry of Health to see how far it will allow them to go financially. Medical hospital superintendents who operated most of the governmental hospitals in the past, feel that they are not receiving suitable recognition and that the new system apparently favors lay hospital superintendents.

There are shortages of beds, and it is pointed out that the very lowest in-

come group is now in a less favorable position regarding hospitalization than formerly when welfare officers were usually able to get this lowest income group admitted without delay. Now they must take their turn, and the middle income group has an equal chance for admission to hospitals.

Specialist consultation services are available to general practitioners without too much delay except in certain special fields, such as dermatology. There is definite evidence that the hospitals and specialist service are being better integrated than was possible previously, and that attractions of the specialist service are such that a very large proportion of the younger men will want to become specialists rather than to go into general practice, due to higher compensation, greater professional opportunities, and prestige. Greatly increased numbers of candidates are applying for the higher qualifications of the Royal Colleges, the examinations of which will presumably have to become more rigid than ever before.

Each local area has its own local executive council and these councils are experiencing probably the greatest difficulties of the entire service at present. General practitioner services are paid for on a capitation basis and each practitioner will receive between $3.20 and $3.60 per annum for each patient on his list. No general practitioner may have more than 4,000 patients on his panel. There are in general, three types of general practitioners each of which has fared somewhat differently under the new system. In industrial areas where private practice in the past depended almost entirely on dependents of insured workers, nearly everyone is now on the panel, and compensation is higher than previously. Panels tend to be full and offices are crowded. Many more minor ailments are treated than formerly, and patients present themselves in earlier stages of illness than before. Mothers tend to bring their whole families to the doctor's office. When home visits are made, doctors are often asked to see more than one patient. It is not at all uncommon for general practitioners in urban areas to see 40 to 60 patients daily in their offices and to make from 6 to a dozen or more home visits. All patients on a given panel may be living within a mile of the doctor's office so that practices of this type are quite concentrated. The more experienced doctors feel they can handle 3,000 patients without difficulty. Some of them even say they can do a good job with 4,000 patients, though it requires a nice sense of discipline and experience in detecting emergency needs.

Practitioners in rural areas have suffered because of the sparse population, which prevents their caring for a full panel. Recent adjustment in the mileage fee has compensated somewhat for this problem, though it still remains difficult, and rural practitioners have in general suffered losses in overall compensation. General practitioners working in well-to-do suburban areas who depended on a relatively small number of private patients have suffered material financial losses. These men made up the very best group of general practitioners in the past, devoting more time to their patients and, by and large, having better training. Since quite high percentages of this better income group have elected to go on the panel system, these doctors have suffered as much as 50 per cent reduction in their income. Patients formerly treated on a private basis seem to expect just as much time to be spent with them, involving the various social amenities even though perhaps not necessary for professional reasons.

It is not considered ethical for a doctor to accept extra fees from a patient on his panel, though many former private patients have offered to pay extra

for special attention. When such people find this is not available to them on the panel system, a considerable number will likely return to a private patient status and thus help solve part of this problem.

Under the present plan there seems relatively little incentive for general practitioners to do a better type of work. A tapering capitation fee (perhaps $6 per patient for the first 1,000 on one man's panel) is being discussed a great deal and seems to find favor with the British Medical Association. Perhaps it has certain advantages and would at least make it possible for a physician to handle a smaller number of patients than at present without so seriously reducing his income. Young men desiring to go into general practice are having some difficulties in finding situations open to them, and this is a problem which demands correction. The system provides opportunities for young trainees to receive $2,800 per year working with a general practitioner approved for the purpose; the latter to receive $600 for providing the training. When fully implemented this training plan should have real advantages.

There are no restrictions on prescribing of drugs by general practitioners and they feel this is a very real advance under the new system. Ten or a dozen chemists interviewed at random had no faults to find with the new Service from their standpoint, even though a very high proportion of their business now comes under this heading. Not a single one of those interviewed reported instances of patients presenting a prescription for drugs and asking that cosmetics, etc., be provided instead of the medicine. It is true that many people who would have purchased minor remedies independently now go to their physician for a prescription, since these remedies are available to them under the Service without extra cost and this complicates the physician's work.

Chemists are paid on the basis of the cost of the drugs involved in a given prescription plus a dispensing fee and the cost of containers. In the London area during November, 1948, prescriptions were written under the system at the rate of $0.49 per person in the area; the average cost of the prescription was $0.54 though some of them went as high as $40 to $50 each. Every local council maintains a register of patients in its area filed both alphabetically and by general practitioner responsible for providing service. As yet there is no register set up on a national basis, though this will undoubtedly be necessary eventually.

During the period July to December, 1948, some 360,000 pairs of spectacles were provided in the London area alone. Over 2,000,000 have been provided nationally. Demands for spectacles have been much greater than expected, and there is now a lag of 3 to 4 months in providing spectacles. As this is on a fee for service basis, costs have skyrocketed; being three to four times what was estimated. A patient desiring glasses must secure a note from his general practitioner saying that they are necessary before he may be examined, but this check has not proved as much of a deterrent as was anticipated.

Dental services have also greatly exceeded expectation. Under the old insurance plan where each patient paid half of the cost of dental care, about 8 per cent took advantage of dental services each year. It was estimated that under the new scheme only 10 per cent each year would take advantage of the fully-paid services available, but actually some 20 to 22 per cent are doing so. A fee for service system prevails with fees as high or higher than those formerly charged in private practice. The Ministry of Health realized this was so but apparently felt greater incentives were needed to bring new

men into dentistry because only one-third the number necessary to provide full service for the population is available. Expectant mothers, preschool and school children are supposed to have priority dental service under the plan; this being the responsibility of the local public health authorities, using salaried dentists for the purpose. However, fees under the plan, sometimes being as high as $4,000 per month, have lured many of these salaried dentists into the ranks of practitioners. Fees were computed on the idea that a dentist could conscientiously do only about 33 hours per week of chair-side work. Actually many of them are working 60 to 70 hours per week. It has been found necessary to reduce fees to 50 per cent when they run above a specified minimum. There is little doubt that much more radical adjustments will be needed in the dental field if priorities set up are to be maintained. Obviously, there are not nearly enough dentists to meet the pressing demands of the entire population.

Local public health officers feel they have been severely "let down" under the new scheme, having been deprived of their hospital-operating functions which had become such an important part of their responsibilities in the past 15 to 20 years. Their salaries have not yet been increased as recommended under the Spens Reports, since they come from local authorities which consider recommended salaries disproportionately high compared with other local officials. Few students are applying for admission to public health schools. Even the London School of Hygiene has a greatly reduced number of students, and many others have ceased operations almost entirely. The plan calls for local authorities to provide health centers on the basis of one for each 10,000 to 20,000 of population. These centers would contain not only public health clinics but also offices for private physicians and dentists in which they might see their panel patients and for which they would pay an amount of rent as yet unspecified. Present regulations would prohibit visits of private patients to these health centers. As a matter of fact, no health centers of this type are in operation as yet, and it now appears that there will be years of delay due to rigid restrictions on building. Many feel that temporary quarters should be prepared for use as health centers, but others in authority are insisting that the health center plan be delayed until proper specially constructed buildings can be provided.

Public health laboratory services are more readily available than clinical pathological services, since there is a national system of public health laboratories which grew out of the wartime plan of regional laboratory services. These are available to general practitioners on a rather satisfactory basis.

Division of authority under the health services plan is especially striking in the field of maternity care. Regional hospital boards are responsible for maternity hospital services; local authorities for midwife services and antenatal clinics, and general practitioners may provide home delivery service on a fee basis in addition to receipts from their panel patients. There is some attempt to coördinate this and other types of services by the method of joint employment; a given obstetrician or tuberculosis specialist being paid jointly by the regional hospital board and the local public health authority. This is one type of coördinating mechanism which, it is hoped, will help to unify the service.

One may summarize certain defects which make the British system as presently constituted less than perfect. The administrative structure of operation is, to say the least, unwieldy. Attempts to make the operations democratic have in some cases reduced central authority to such a dangerously low level that proper administration and

budgetary control are proving difficult. Personnel is being drawn off from one branch of the service to another. School dentists are going into practice and public health officers into hospital service. Certainly general practitioners would be wise to attempt to become specialists unless their present lot is improved. Basic science faculties in the medical schools are being depleted because salaries for clinicians are much higher than available to them if they remain as basic science teachers. Facilities and personnel are insufficient to provide all the services which have been promised the people. There are insufficient nurses to staff even the beds presently available. One gathers the definite impression that too much has been attempted in too short a time. Not nearly enough trained administrators are available and little effort is being made to provide additional training. Education of the public seems not to have sufficiently emphasized the shortages although it is evident that the public itself is not surprised at this so far. Many people realize that it may be 10 or 15 years before a really complete service will be available to them. Health centers, basically important to satisfactory operation of the plan, are not yet provided, and there is little evidence that even experimental health centers will become available in the near future. Pilot studies to indicate the extent of demands for services have been inadequate, accounting to a considerable degree for the fact that estimates of costs were much too low. The problem of defining qualifications of specialists is proving difficult though one might have predicted that this would be by no means an easy task.

Too much paper work is being demanded of general practitioners who must sign certificates for disability payments, various types of rations, etc., in rather surprising volume. It is perhaps fair to say that by and large, general practice is being overburdened and that vigorous measures will be required to correct this situation, probably the most serious problem existing at present. Original estimates of costs have proved entirely too low and recently a deficit appropriation of some $240,000,000 additional was requested and granted. It is interesting however, that in the parliamentary debates over this request, while protesting the administrative ineptness of the Labor government the Conservatives stated unequivocally that the health service plan itself was not being opposed since it actually had been originated under Churchill's prime ministership. Even at the present rate of cost, the expenditures per person per year are approximately $30 so that it can scarcely be said that the costs are exorbitant.

There are very definite strengths in the plan which should be emphasized. Universal coverage is now established as a right. The man on the street feels this is a very valuable possession and that abolition of the "means test" has been an extremely worth-while accomplishment. The functional and geographic grouping of hospitals under management committees and the regional hospital boards will unquestionably prove of very great value. Boundaries previously existing under local authority jurisdictions and under the voluntary hospital system have been rubbed out and grouping can now be made on the basis of hospital service areas, which, of course, is much more realistic. Excellent specialist services are being built up and there seems every reason to feel that progress in this direction will be not only rapid but extremely worth while. General practitioners are now able to prescribe any drugs desired and are seeing illnesses in much earlier stages than before. Representatives of organized medicine in Great Britain state that they have been dismayed at the very unfavorable reports being cir-

culated in the United States on the present situation in Great Britain. They welcome the opportunity to point out their approval of the general principles of the plan and to indicate that administrative readjustments required to bring about improvements appear by no means to be impossible of accomplishment.

One may say then, in general, that there are both good and bad features of the British plan as it is now operating. Those in authority recognize the bad features and certainly give every impression that yoeman efforts are being made to iron out the difficulties. No one expects this can be accomplished overnight, but much hard work is being put in by both advisory committees and responsible officials to improve the system as rapidly as possible. Up to the present time the public reaction is favorable on the whole. If progress in bringing about improvements is made at a reasonable rate, it seems probable that public approval will continue.

While the British plan as a whole would not be applicable to all parts of the United States, there are many features from which we can learn a very great deal in planning for improvement in our own national health services.

Outbreak of Jungle Yellow Fever in Panama

According to information released by Fred L. Soper, M.D., Director of the Pan American Sanitary Bureau, Washington, D. C., to the public health departments of the 21 American Republics, several cases of confirmed jungle yellow fever occurred in the last 2 months of 1948 in the vicinity of the town of Pacora, Panama. The cases diagnosed by post-mortem examination are classified epidemiologically as typical jungle yellow fever; 4 of these occurred in workers who were engaged in cutting timber in the forest, and 1 in a person who had spent a week hunting in the same jungle area of Panama.

Dr. Soper, late in January, advised countries having airline communication with Panama that he believed that the jungle yellow fever there does not constitute a danger to other countries through passengers in transit. The cases of the fever were limited to workers in the jungle. He suggested that vaccination against yellow fever be required of passengers whose travel originates in Panama.

The health authorities of Panama, where no clinical case of urban yellow fever has occurred for 50 years, and where until this time no human cases of jungle yellow fever had been diagnosed, recalled some positive protection test discovered in 1941 between the Canal Zone and the Colombian border. In order to prevent the occurrence of urban cases, or cases transmitted by Aedes mosquitoes, the basic measure to be taken is the eradication of Aedes, preferably on a continental basis. According to Dr. Soper, in areas favoring the development of jungle yellow fever, the measure to be recommended is vaccination of all persons residing in those regions. He was of the opinion that there is no danger for persons who are simply in transit through cities without *Aedes aegypti*.

Can Child Accidents Be Prevented in Your Community?

D. B. ARMSTRONG, M.D., F.A.P.H.A., AND W. GRAHAM COLE

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THE fact that no immunization procedure could have prevented the accident which resulted in the fatal burning of a 2 year old child who had been playing with matches, in no way lessens the sorrow or anguish of the bereaved parents. The fact that no simple scientific method has been developed which could have prevented the deaths of about 12,000 children aged 1 to 14 who died last year as a result of accidents, in no way lessens the distress and the social and economic losses resulting from these deaths. But these facts do emphasize the responsibility of medical and public health agencies to study, develop, and apply effective measures for the control of mortality and morbidity resulting from accidents.

Although the accident death rate among insured children in the age group 1 through 14 showed a 29 per cent reduction during a recent 15 year period, this decline was not consistent and compares unfavorably with the reduction in child deaths due to disease. As a result, accidents today represent the first cause of death among children and present a major child health problem. While much remains to be learned through research regarding the underlying physical and emotional factors responsible for accidents and involved in accident proneness, still we are far from

FIGURE 1—Fatal Accidents Among Children

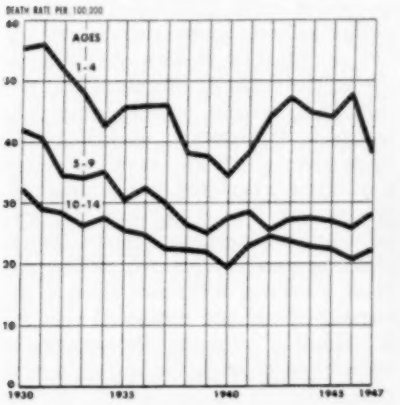
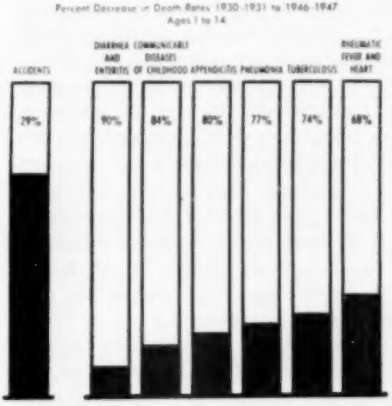


FIGURE 2—Accidents versus Certain Diseases



Experience of Metropolitan Life Insurance Co.—Weekly Industrial Department

utilizing fully our present knowledge as to the prevention and control of accidents.

National Approach to Child Safety

In an effort to stimulate more intensive interest in the subject of child safety, the Metropolitan Life Insurance Company with the cosponsorship of the Children's Bureau of the Federal Security Agency, the American Academy of Pediatrics, and the National Safety Council, has launched a continuous child safety program. It is the distinct purpose of this program—

1. To encourage parents, other adults, and older children responsible for the health and happiness of younger children, to
   a. recognize the accident hazards confronting young children;
   b. provide and maintain safe conditions for the child in the home and at play;
   c. help the child, through example and guidance, to develop safe practices.
2. To encourage public health, medical, and other interested agencies to give added emphasis to child safety in their own programs.

Child Safety—A Community Challenge

The effectiveness of any effort to reduce the frequency and severity of child accidents will in the final analysis depend upon the steps taken by each community throughout the nation to study the child accident problem and to stimulate individual and collective control measures within its area of influence. The seriousness of this problem justifies such community action on an organized and sustained basis. Although local problems may warrant special emphasis and adaptation, child safety activities, where practical, should be integrated into the overall health and safety program of the community.

As a guide to organizations or individuals interested in planning or developing a continuous community child safety program, this article lists the more important studies and activities which warrant consideration. It is recognized that all of these studies and activities may not be appropriate for every community and that additional suggestions may be developed as a result of a study of the local situation. It is hoped, however, that the following may provide a check list to aid in suggesting a practical program for your community.

ORGANIZING YOUR COMMUNITY FOR CHILD SAFETY

Sponsoring or Directing Agency

To be effective a local child safety program must be initiated and sponsored by some agency which accepts, as a major responsibility, the improvement of child health and safety in the community. Accordingly, an opportunity exists for the department of health, the health council, or the safety council, to assume this leadership, either singly or jointly, depending upon which type of leadership in a particular community is in a position to obtain the fullest possible coöperation of other agencies and to produce the most effective results.

An Organization Meeting

In addition to the leadership of the sponsoring agency, a sustained program to control child accidents in a community will require the support and active participation of such official agencies as the board of education, and the police, fire, hospital, building inspection, and park departments; as well as the coöperative efforts of nonofficial agencies having an interest in the conservation of child life. To develop this support and participation, and to discuss plans for a coöperative child safety program, a meeting of representatives of interested official and nonofficial agencies is desirable. Among the nonofficial agencies which might be invited to send representatives to such a meeting may be listed:

County Medical Society
Other Professional Societies, including Medical, Dental, and Nursing
Visiting Nurse Association
Health Organizations
Safety Council or Other Safety Organizations
Social Service Agencies
Youth Organizations (Boy and Girl Scouts, Campfire Girls, 4H Clubs, etc.)
Women's Organizations
Automobile Club
Parent-Teacher Associations
Red Cross Chapter
Service and Luncheon Clubs
Insurance Club
Neighborhood Associations
Patriotic Groups
The Local Press

The invitation to attend this preliminary meeting might be sent by the sponsoring agency, which should develop and arrange for the meeting; or the invitation might well be issued by the mayor in behalf of the sponsoring agency. A serious child accident or a series of child accidents in the community, accidents in nearby communities, or the existence of a particular local hazard to child safety will usually prove an effective motivating influence and might be given as one of the reasons for calling the meeting.

In arranging for this meeting the sponsoring agency should be prepared to present information regarding the child accident experience in the community and to outline, for discussion, some of the possible activities which might be conducted with the active cooperation of local agencies. This initial meeting should prove an excellent educational opportunity for the representatives attending, and the resulting publicity should prove of educational value throughout the community. During the meeting efforts should be exerted to create a continuing child safety committee.

SUGGESTED COMMUNITY ACTIVITIES

An Inventory of Local Organizations

As a preparatory step in planning the local child safety program, an inventory of local agency activities will be very desirable. Such an inventory might be conducted under the auspices of the newly organized child safety committee. Necessary information could be obtained through personal interviews with city officials and organization officers, or by mail questionnaires.

Those taking the inventory should seek and list information regarding the basic interest of the organization as it affects the child accident problem and its present or contemplated child safety activities. The inventory should also indicate the number of employees, members, and volunteers through whom child safety information can be disseminated; the number and type of employees or members who can actively participate by serving on committees, by investigating and analyzing accidents, by conducting surveys of environmental hazards, by preparing materials, by addressing audiences, and by handling necessary clerical work.

Obtaining Facts Regarding Child Accidents

Factual information regarding the frequency, types, and causes of child accidents in the community is essential to the development of an effective program. Such data are also necessary to the preparation of essential educational and publicity material. The collection and analysis of such data can in themselves serve as an effective educational device.

Data regarding the occurrence of fatal accidents to children are usually obtainable from the records of the local health and police departments. A follow-up of these records by a detailed questionnaire submitted to and filled in by the reporting physician (a plan followed by the Kansas State Department of Health and by the Nassau County, New York, Department of Health), or by personal interviews with members of the injured child's family, is desirable.

Programs based entirely on fatal accident data will fail to include many important causes of permanent and temporarily disabling injuries. Through the coöperation of physicians, visiting nurses, hospital and police authorities, case histories and other data regarding nonfatal injuries to children may be obtained. Questionnaires distributed through the schools and house-to-house interviews by trained interviewers have been used to collect such data.

Factual data regarding child accidents should include the age and sex of the child; the area of the community where the child lives and was injured; the place of the accident, i.e., home, school, playground, street, at work, or other specified location; the kind of accident; the nature and seriousness of the injury; the unsafe environmental conditions or practices involved in the accident. Where possible to obtain, information regarding the underlying causes of individual accidental injuries —such as contributing physical impairment of the injured, and the psychological, emotional, and sociological factors involved—is a valuable diagnostic aid.

Survey of Physical Conditions Affecting Child Safety

Information regarding environmental physical conditions which may affect child safety is essential in order that proper corrective action may be planned and undertaken. The analysis of accident data will disclose the location of some hazardous situations; observation and investigation will be necessary in order to determine other such situations, and to plan and recommend the proper remedial measures.

Among the areas justifying study in most communities to determine child accident hazards, may be included—

The Home and Its Environs

Unsafe physical conditions in and around homes are important contributing causes of child as well as adult accidents. The correction of home hazards, particularly as they are affected by child growth and development, should accordingly be considered as an essential phase of a child accident prevention program.

Although local regulations in some communities may permit fire or sanitary inspectors to enter private homes for the purpose of checking compliance with their respective local requirements, the official inspection of homes for unsafe conditions is seldom, if ever, provided for by law. Fire and sanitary inspectors, however, can render an effective community service by calling attention to unsafe conditions, particularly those affecting child safety, as noted during their authorized inspections.

Physicians and public health nurses, because of their close contact with parents, are frequently in a position to encourage the correction of unsafe conditions, particularly those affecting children.

Home inspection check lists have been used in a number of communities to encourage voluntary home inspection. These check lists have been distributed to children in the schools to take home for their parents or other adults to fill out and to return by the children.

The School Premises

Unsafe conditions on the school premises may not only be the cause of injury to children, but also may tend to offset the value of otherwise effective safety education. Preliminary inspection of school premises may be made through the coöperation of the local school and building inspection authorities. Additional assistance can usually be obtained from the local engineers or inspectors of casualty insurance companies.

Periodic inspections should be made by the school custodian. Properly supervised inspections by pupil safety com-

mittees will aid in finding unsafe conditions and will also serve as an effective teaching device.

In any inspection, special attention should be given to laboratories, shops, kitchens, and other work areas used for instruction purposes, and to play and recreational areas.

Playground and Public Recreational Areas

A periodic check of playground and other recreational equipment and the facilities provided for the protection of children at swimming pools and bathing beaches is usually warranted as part of the community child safety program.

Traffic Conditions

Frequent observations of traffic conditions on streets adjacent to schools and playgrounds, made by members of the parent-teachers association, neighborhood association, and automobile club, in coöperation with police authorities, will aid in determining unsafe conditions and in suggesting remedies. The use of schoolboy patrols, the installation of proper school stop signs, and the designation of play streets may effectively supplement the activities of the police at these locations.

The determination of safest routes for children to use in going to and from various residential areas and their respective schools, has proved a valuable means of controlling child accidents on the street and has also been used as an effective upper-grade safety educational project.

Press Publicity

Frequent references to the local child safety program and facts concerning the child accident problem of the community printed in the local press, will prove a valuable means of stimulating widespread interest and of encouraging additional activities. Such publicity might well include news items regarding various activites of the child safety program, editoral comments, signed articles or endorsement (by prominent local people), weekly analyses of local child accidents, human interest stories of child accidents, question and answer contests, photographs, cartoons, etc.

Radio

The local radio station can contribute to the child safety campaign by utilizing national program material dealing with child safety, and by arranging for special programs over the local station. These special programs might include the broadcasting of local addresses on child safety, the presentation of locally developed skits, spot announcements, interviews with prominent citizens interested in child safety, etc.

Safety Education in Schools

A continuous and effective safety program, conducted as a part of the regular school curriculum, will prove one of the most important phases of the local child safety activities. Such a program should seek to develop safe practices on the part of students and to encourage a sense of responsibility of the older-age children for the safety of the younger ones.

The integration of safety material into the health educational activities of the schools and into permanent regular curricular subjects, has usually proved most effective, particularly when proper consideration has been given to child growth and development. To accomplish these aims teachers should be supplied with proper teaching aids including current data on the local child accident situation.

The organization of school safety councils or committees among the pupils to investigate accidents, develop school safety rules, organize school safety patrols, and suggest safe routes to and from school, has proved of value in many schools. Courses in vocational training provide outstanding opportuni-

ties to incorporate child safety education as a means of protecting the child at school and of developing future safe workers. The introduction of driver training courses in the upper classes of the high school provides an additional direct means of child safety education.

Supplemental Safety Education

Red Cross chapters in many communities are in a position, through their First Aid and Accident Prevention activities, to present home safety courses for adults and junior safety courses for organized groups of children.

Meetings and Addresses

The effectiveness of the local child safety program can always be increased through the use of the spoken word. The regular meetings of local civic, service, patriotic, fraternal, neighborhood, parents, and women's groups provide an opportunity to introduce the child safety theme through scheduled addresses by competent individuals interested in the various phases of the problem. Arrangements can also frequently be made to have speakers appear before religious bodies, or material can be furnished to the religious leaders for their own use. Skits and demonstrations on child safety can be used effectively at these meetings.

To take full advantage of this method of reaching the public, a speakers bureau may be desirable.

Exhibits and Demonstrations

Exhibits of safe toys, safe nursery equipment, and other materials pertaining to child safety usually provide an effective means of instructing the public and of stimulating widespread comunity interest. Such exhibits may be used at organization meetings and may be displayed in store windows or other public places where they will be seen by large groups. Local merchants may be interested in developing and arranging for the display of such exhibit material. To stimulate community-wide interest in this project a contest might be conducted to determine the most effective and constructive exhibit displayed during a specified period. For example, a safe toy exhibit displayed in various store windows during the first week or two of the Christmas buying season, may prove of considerable value.

Distribution of Material

Effective material, booklets, leaflets, hand dodgers, etc., pertaining to child safety, distributed directly to homes, will aid materially in informing the public of the seriousness of the child accident problem and of means of preventing such accidents. In addition to material of this nature, which may be obtained from national or state agencies, locally prepared material can be used effectively. Various methods have been used for distributing material. For example, it has been furnished to children in the schools to take home to their parents; it has been enclosed with the bills of public service organizations, stores, etc.; and has been given house-to-house distribution by local representatives of insurance companies. It has also been used effectively as a teaching device by public health nurses.

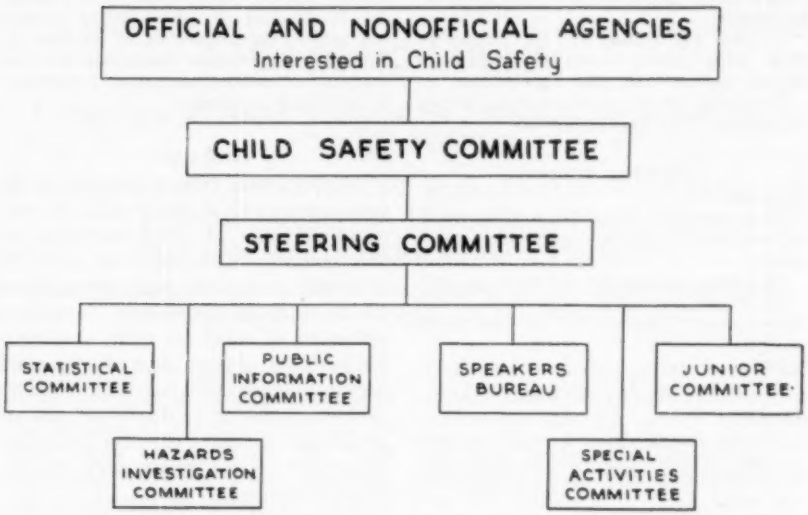
SUGGESTED PLAN OF ORGANIZATION FOR A COMMUNITY CHILD SAFETY PROGRAM

In order to plan and conduct an effective community-wide child safety program coördinating the activities of interested agencies, a definite plan of approach is desirable. The following committee structure is suggested for consideration and adaptation to the needs of your community.

CHILD SAFETY COMMITTEE

Membership — Appointed representatives of each interested and coöperating agency (see list

SUGGESTED ORGANIZATION CHART



of official and nonofficial agencies in the early part of this paper).

Functions—

To study the local child accident problem.

To plan and carry out an effective preventive program by coördinating the activities of coöperating agencies.

To appoint and guide necessary special committees or subcommittees to carry out effectively the coördinated child safety program.

EXECUTIVE OR STEERING COMMITTEE

Membership—Chairman of each special committee or subcommittee and such additional members as may seem desirable.

Functions—

To conduct an inventory of coöperating agencies (see early part of this paper).

To develop the overall policy to be followed in the child safety program.

To review the reports and recommendations of subcommittees before presentation to the Child Safety Committee for adoption and action.

To represent the Child Safety Committee in the interim between meetings.

STATISTICAL OR FACT FINDING COMMITTEE

Functions—

To collect and analyze available data pertaining to the child accident experience of the community.

To plan and conduct such studies, surveys, house-to-house interviews, etc., as may be necessary to obtain statistical facts and case examples of nonfatal disabling accidents to children.

To interpret factual data for the use of the Public Information Committee and for the use of coöperating agencies in planning their preventive activities.

HAZARD INVESTIGATION COMMITTEE

Functions—

To develop a continuing plan for the investigation and reporting of physical conditions affecting child safety in the community.

To organize and train volunteer workers, representatives of coördinating organizations, and other interested individuals, to make investigations and offer recommendations.

To develop an effective method of following up and obtaining action on recommendations resulting from investigations.

PUBLIC INFORMATION COMMITTEE

Functions—

To collect and review available publications on child safety including pertinent material on child growth and development.

To prepare and furnish material pertaining

particularly to the local child safety problem, to the local press, local radio stations, speakers bureau, school authorities, and other coöperating agencies.

To plan and arrange for the conduct of child safety training courses for professional leaders, parents, and older-age children.

To arrange for the proper local distribution of effective child safety material.

SPEAKERS BUREAU

Functions—

To prepare a list of individuals who are willing and capable of accepting speaking assignments.

To secure engagements for these speakers.

To furnish material provided by the Public Information Committee, for the use of the speakers.

SPECIAL ACTIVITIES COMMITTEE

Functions—

To plan and develop such special activities as may be deemed desirable in order effectively to keep the child safety problem before the public.

JUNIOR COMMITTEE

Membership—Representatives of the local Youth Council and of school student councils. If deemed desirable two junior committees might be organized—one on the grade school level and the other on the high school level.

Functions—

To plan, organize, and conduct youth and student participation in such pertinent activities of the Child Safety Committee as the investigation of accidents and child hazards, the development of school safety councils and patrols, the preparation of material for the Public Information Committee, and the acceptance of speaking assignments as requested by the Speakers Bureau.

SUMMARY

At the present time, accidents are the first cause of child deaths and an outstanding cause of child morbidity in this country. The reduction of child accidents during the past fifteen years has by no means approached the marked reduction of child mortality and morbidity due to disease. Accordingly, child accidents represent a major child health problem requiring further study and research and the more effective utilization of present knowledge regarding prevention and control.

The seriousness of the child accident problem presents a definite challenge to responsible public health agencies for the initiation and conduct of well organized community programs planned to coördinate the activities of all local official and nonofficial agencies interested in child safety.

Chronic Disease

The Chronic Disease Study of the California Department of Public Health *

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PUBLIC health agencies have only recently begun to face the problem of chronic disease. The need for action has been amply demonstrated. The facts concerning the aging of the population and its influence on chronic disease mortality and morbidity are all well known. These facts offer no surprises to welfare agencies, hospitals, voluntary health agencies, physicians, nurses, and the millions of families who cannot ignore the day-to-day problems of chronic disease.

Viewed historically, it is appropriate here in Boston to note that the first significant attack on this problem by a state health department was that launched in Massachusetts in 1926. Since that time, other states have entered this field but for the most part their activities have been limited to cancer control.

Recent events provide concrete evidence of growing public health concern with the problem of chronic disease. First, the American Public Health Association, the American Medical Association, the American Hospital Association, and the American Public Welfare Association, working together in 1947, developed and published a basic, joint statement of principles entitled "Planning for the Chronically Ill."[1] It is noteworthy that the subject of chronic disease brought these four groups into a coöperative working relationship for the first time.

A second evidence of public concern about chronic diseases is the emphasis given this subject at the recent National Health Assembly. A special section was devoted to this topic. In addition, the section devoted to Local Health Units listed chronic disease control as one of the seven basic activities of health departments.

A third event, also of primary significance, is the cognizance of the problem taken by Congress through passage of the act establishing the National Cancer Institute and the National Heart Act with the appropriation of funds to implement these acts.

These events leave no doubt as to the growing interest in the challenging field of chronic disease.

It was a realization of this growing interest and of the increasing magnitude of the problem involved that was the genesis of the chronic disease investigation in California.

INITIATION OF CANCER CONTROL PROGRAM

In August, 1946, the California State

* Presented at a Joint Session of the Epidemiology, Health Officers, and Statistics Sections of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 11, 1948.

Department of Public Health initiated a cancer control program through the use of federally allotted funds. Responsibility for this activity was placed, not in a cancer control unit, but rather in a newly created Chronic Disease Service. This was done in recognition of the fact that cancer is but one of many chronic diseases which may be subject to the same general public health approach. It was realized that the organizational pattern developed for cancer control may also be useful in programs for heart disease, diabetes, and other chronic diseases. Health departments have developed techniques and specialized personnel in such fields as statistics, nursing, health education, laboratory, and administration. Once used principally for communicable disease control and then extended to other areas, these techniques and personnel are now being mobilized for cancer control. They are equally applicable to the other chronic diseases.

LEGISLATIVE RESOLUTION

As indicated above, the program in California was launched with federal cancer control funds. In order to determine what the state's interest should be in the broad field of chronic diseases, the California Legislature, in June, 1947, passed a Resolution directing the Department of Public Health to "investigate the problems involved in the reduction of deaths and disability from cancer and other chronic diseases." The department was directed to "report to the 1949 general session of the Legislature the results of its investigation and make recommendations as to a program for the reduction of such deaths and disabilities and the costs thereof."

ADVISORY COMMITTEE

To guide the department in this chronic disease investigation, an Advisory Committee was appointed by the State Director of Public Health. The committee includes prominent representatives from professional fields, such as the Chairman of the Council of the California Medical Association, the Administrator of Alameda County Hospitals, the Medical Director of the Los Angeles County Department of Charities, the Director of the State Department of Social Welfare, the Medical Director of the Pacific Branch of the Metropolitan Life Insurance Company, the Health Officer of a county health department, an official of the California Osteopathic Association, and the Dean of the School of Public Health of the University of California. Community interests, such as business, farm, labor, local government, parent-teachers associations, and voluntary health and welfare groups are likewise well represented.

To date, the committee has met five times. The first meeting was in December, 1947, and subsequent meetings were held in March, June, September, and November of this year. The committee will meet again early in December to review a draft of the report to the Legislature. This will include such recommendations as may be decided upon by the committee.

The committee has demonstrated a keen interest in the problem. It has called for at least six meetings, rather than the three originally suggested. Attendance at the day-long meetings has been excellent. In addition to formulating general policies for the investigation, the committee has plunged into many important detailed aspects of the work. For example, it prepared a list of diseases to be included in morbidity and mortality studies and it examined the particulars of the state rehabilitation program and other present programs relating to chronic disease. Individual committee members worked with the Chronic Disease Service staff in developing schedules and questionnaires used in the investigation. At the committee's suggestion, the task of preparing recommendations for inclusion in the report

to the Legislature has been parcelled out to individual committee members who will submit drafts to the committee as a whole.

NATURE OF STUDY

The chronic disease investigation is proceeding along two fronts. On one hand, consideration is being given to the problems more or less common to all chronic illness, such as hospitalization, rehabilitation, and custodial, nursing home, and home care services. On the other hand, technical advisory groups, auxiliary to the general advisory committee, are directing special attention to the problems relating to particular diseases, such as cancer, heart disease, diabetes, alcoholism, rheumatism, and dental disease.

An attempt has been made to secure information in the following general fields:

1. To obtain an estimate of the problem as determined from a study of morbidity, mortality, and other data.
2. To secure information on the needs, particularly of services and facilities, for such items as health promotion, prevention of diseases, treatment, rehabilitation, and research.
3. To obtain an estimate of resources presently available.
4. To arrive at recommendations concerning action to be taken.
5. An estimate of the costs.

The methods of the investigation have included a study of pertinent comparable investigations carried out in California and elsewhere, demographic studies, securing of expert opinion from a wide variety of individuals and agencies involved in this field, an intensive review of all present services and facilities for the care of the chronically ill, and, finally, detailed studies in certain areas by technical advisory groups.

A problem confronting all chronic disease studies and investigations is the lack of current data on chronic disease morbidity. In previous studies, the National Health Survey data and ratios have been the principal source of information. The National Health Survey is now twelve years old, and in certain other respects not entirely satisfactory.

For the present investigation, current morbidity data have been available from the California Disability Insurance Program. Approximately three million employed persons are eligible for benefits under this program which compensates, in part, for wage loss due to non-occupational illness. Diagnostic information, available from physicians' statements on claim forms, can be related to demographic characteristics of the claimants as well as to the duration and amount of benefits paid. It is of interest to note, for example, that of the $15,000,000 paid out in benefits during 1947, the first year of operation, approximately one-half was paid for chronic diseases.

Although disability insurance data have proved valuable, obviously they do not give the complete picture of chronic disease morbidity. These data pertain only to illness which occurs in a limited section of the population, and the information is further limited by administrative and legal features of the program. In order to obtain more adequate current morbidity data, that is, data applicable to the general population, consideration is being given to other sources within the state.

We have also been fortunate in having available both the data and the recommendations of the California Hospital Survey completed in 1947. This survey is of particular significance to the present investigation because it presents recent information, thinking, and planning on chronic disease hospital facilities not as an isolated problem, but rather as part of the overall problem of providing adequate hospitals and related facilities in California.

The Joint Statement on "Planning for the Chronically Ill," the statement drafted by the four national organizations last year, has also been helpful.

The Joint Statement was used by the Advisory Committee as a guide in planning the investigation; and it was also used in designing a schedule for a special survey of facilities and services for chronically ill welfare clients in sixteen California counties.

A somewhat different use of the Joint Statement was made in the course of obtaining expert opinion during the investigation. Letter questionnaires were sent to presidents of county medical societies, county welfare directors, public and private hospital administrators, local health officers, executives of voluntary health and welfare agencies, presidents of local osteopathic associations, and county grand jury foremen. The questionnaires, prepared in consultation with appropriate state organizations, were accompanied by copies of the Joint Statement. In this manner, over 500 copies were distributed to persons whose positions make them particularly important in the development of a chronic disease program. By the use of the Joint Statement, however, the Advisory Committee has made it clear that it feels in no way obligated to accept all or any of the broad principles therein enunciated. The committee plans to arrive at its own conclusions on the basis of the findings of the investigation.

The Disability Insurance data, the California Hospital Survey data and recommendations, and the Joint Statement have all been helpful. Of especial importance, however, has been the aid of technical advisory groups for the specific chronic diseases, particularly cancer, heart disease, diabetes, and alcoholism. The Cancer Commission of the California Medical Association, which has made extensive contributions to cancer control in the state over a 17 year period, agreed to prepare a report in its sphere. Likewise, the Heart Advisory Committee of the California Tuberculosis and Health Association is serving as a technical advisory group in its field. With respect to diabetes, in the absence of a state organization, individual members of the American Diabetes Association were consulted and assisted in developing this section of the report. When alcoholism was proposed as a disease deserving of specific attention, the California Medical Association appointed a special committee on the subject.

Members of the medical profession have been devoting many long evenings and week-ends to the difficult problems arising in the fields of their particular clinical interest. Each of the technical advisory groups is defining the objectives of a program, suggesting methods of attaining these objectives, and making specific recommendations on program content and method. These recommendations, in report form, are being submitted to the general advisory committee for incorporation, in such form as the general committee may designate, into the report to the Legislature.

Close working relationships established between these technical groups and the State Health Department staff have proved highly beneficial. These relationships, exceedingly useful during the investigation, offer great possibilities for effective guidance and coöperation in any program which may emerge.

Before concluding this statement, it should be pointed out that while these investigations are under way, the Chronic Disease Service has been gradually working into an operating program. Main emphasis thus far has been on cancer. This control program is being developed in coöperation with the Cancer Commission of the California Medical Association and the California Division of the American Cancer Society. As part of this program, a Tumor Registry has been set up. Hospitals, having in total 33 per cent of the general hospital beds in the state, are submitting cancer case reports to the Registry. Since its inception in 1947, over 20,000 case reports have been received. Follow-up of these

cases is being done by the reporting hospitals, and death clearance is carried on by the Vital Statistics Section of the State Department of Public Health.

Professional education has constituted another phase of the cancer control program. Teams of cancer experts from the medical centers in the state have conducted a number of symposia for physicians in the non-metropolitan areas of the state. A film demonstrating the proper method of examining the breast for cancer was produced and is now being shown. Development of the cytologic technique for cancer detection was stimulated in California, at first, through the training of physicians in eastern centers. This year, assistance is being given to a training center for physicians and technicians within the state.

In addition to these educational measures, surveys of facilities and services for cancer control have been carried out in coöperation with county medical societies. These have been completed for most of the larger counties, and work is now progressing into the smaller counties.

As would be expected, the Chronic Disease Service is keenly interested in the development and use of methods and techniques for early detection of any of the chronic diseases. In this connection, there is special significance in a recent multiphasic survey conducted in San Jose, Calif., by the Santa Clara County Medical Society, the San Jose City Health Department, and the State Department of Public Health. Although the details and results of this survey will be reported elsewhere, the objectives and approach will be of interest to this audience. The survey was set up to determine the feasibility of combining some of our well established public health screening programs with the newer techniques being developed for the chronic diseases. Instead of screening for a single disease entity, a battery of tests was arranged to screen for a number of diseases. The battery included, in part, miniature chest x-rays, which were read specifically for cardiac abnormality as well as for pulmonary pathology, blood and urine tests for diabetes, and a serologic test for syphilis.

SUMMARY

In summary, this paper has attempted to describe the activities of the California State Department of Public Health in the field of the chronic diseases.

In 1946, a cancer control program, initiated with the use of federally allocated funds, was set up in a newly created unit designated as the Chronic Disease Service. In 1947, the Legislature directed the department to conduct a chronic disease investigation. In carrying on this investigation, the department has been fortunate in having available the current morbidity data from the State Disability Insurance Program, the data and recommendations from the recent California Hospital Survey, the Joint Statement on "Planning for the Chronically Ill," and of even more fundamental importance, the services and active interest of a general advisory committee and of several technical advisory groups.

REFERENCE

1. Planning for the Chronically Ill. *A.J.P.H.* 37, 10-1256 (Oct.), 1947.

Chronic Disease

Chronic Disease as an Industrial Hygiene Problem *

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THIS paper reports briefly on the use of vital statistics in industrial health administration and practice. Medical programs in industrial establishments vary in their natures and extent, depending upon the motive of the employers, the wishes of the employees, and the influence of the physicians in charge of their medical programs. In some, surgery predominates (the care of compensable injuries); in others, medical care is outstanding; and in still others, the objective is protection of employee health.

Industrial medical programs of the last mentioned kind are sometimes known as health maintenance programs, occupational or industrial health, industrial hygiene, and occasionally occupational hygiene or medicine. They are becoming increasingly useful to industry and society because they help the employed people to preserve their health, and as a consequence of their growing importance, physicians skilled in this kind of industrial practice are coming to be recognized as specialists. Industrial medicine of this type is really preventive medicine, or, if you prefer, public health, and plant physicians who follow such practices are regarded as the health officers of the plants in which they serve.

It is the health maintenance type of industrial practice that records and studies vital statistics of the employees; and fortunate indeed is the industrial doctor who has such statistical information regularly available.

Industrial vital statistics should include death rates and non-occupational disability rates of the plant population, as well as the information on occupational injuries and diseases which doctors usually collect. It is assumed, of course, that statistics of occupational diseases and injuries are at all times carefully gathered and studied, even though relatively of small consequence compared with the non-occupational sicknesses. Even disability rates from the non-occupational injuries far exceed those of the occupational. In other words, the employed people of the United States are much safer in their places of employment than they are elsewhere, and their non-occupational sickness rates are far in excess of those of the occupational diseases.

In some industries the disability rates on occupational diseases are now as low as 6 minutes per employee per year; while non-occupational sickness rates may be as low as 5 days per employee per year. It is, therefore, clearly evident that regardless of progress, the important industrial health problem is, in

* Presented before a Joint Session of the Epidemiology, Health Officers, and Statistics Sections of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November, 11, 1948.

TABLE 1

Non-Industrial Disability Rates per 1,000 Male Hourly Employees—Year 1947

Chronic Diseases	*Age Groups*							
	Under 20	*20–29*	*30–39*	*40–49*	*50–59*	*60–69*	*70 & Up*	*All Ages*
Respiratory	1	1	2	2	4	6	3	2
Cardiovasc.-Renal	0	1	3	7	16	33	48	6
Genitourinary	0	1	1	1	1	1	1	1
Organs of Movement	2	3	7	13	19	25	31	9
Nervous System	3	3	5	6	6	10	14	5
Cancer	0	0	0	1	3	6	7	1
Assimilative	0	1	1	2	3	7	9	2
Total	6	10	19	32	52	88	113	26

(The above rates exclude disabilities lasting less than a week.)

Respiratory includes tuberculosis of respiratory system, asthma, and hay fever.
Cardiovascular-Renal includes pericarditis, endocarditis, organic heart diseases, angina pectoris, tachycardia, aneurysm, embolism, phlebitis, varicosities, and nephritis.
Genitourinary includes nephrolithiasis and pyelitis.
Organs of Movement includes chronic rheumatism, myalgia, and neuritis.
Nervous System includes neurasthenia, paralysis, cerebral apoplexy, meningitis, insanity, and herpes zoster.
Assimilative includes anemia and diabetes.

reality, a public health problem and not an industrial one.

Industry has a great deal at stake in the health of the employees, and for that reason modern industrial medicine is allied with public health and it uses public health methods. The Corporation with which the writer is associated collects vital statistics currently, and makes monthly and annual studies of the causes of death, as well as sickness disabilities in its employees. As the employees are well distributed throughout the United States, the statistics can be regarded as fairly representative of people employed generally in the mechanical trades. While the health maintenance program of this Corporation follows conventional procedures, certain of its special disease control functions vary from year to year in accordance with the experience and trends which have featured each previous year.

For example: When disabilities from pulmonary tuberculosis, appendicitis, and pneumonia were high, special efforts were made to assist employees in the prevention and control of those diseases. During the war, to use another example, special venereal disease programs were set up. In short, using the language of industry, the medical de-

TABLE 2

Non-Industrial Disability Rates per 1,000 Female Hourly Employees—Year 1947

Chronic Diseases	*Age Groups*							
	Under 20	*20–29*	*30–39*	*40–49*	*50–59*	*60–69 (a)*	*70 & Up (b)*	*All Ages*
Respiratory	2	3	2	2	0	2		3
Cardiovasc.-Renal	3	4	7	11	11	18		7
Genitourinary	2	2	3	2	2	2		2
Organs of Movement	4	8	17	19	31	32		15
Nervous System	10	27	30	21	22	9		26
Cancer	0	1	1	2	3	7		1
Assimilative	10	10	9	8	9	13		9
Total	31	55	69	65	78	83		63

(The above rates exclude disabilities lasting less than a week.)

(a)—Rates do not follow pattern because exposure was less than 500 man-years.
(b)—Rates not shown because exposure was less than 100 man-years.

TABLE 3

Non-Industrial Death Rates per 1,000 Employees—Year 1947

	Age Groups							
Chronic Diseases	*Under 20*	*20–29*	*30–39*	*40–49*	*50–59*	*60–69*	*70 & Up*	*All Ages*
Respiratory	0	0	0	0	1	1	1	0
Cardiovasc.-Renal	0	0	1	2	7	15	35	2
Genitourinary	0	0	0	0	0	0	0	0
Organs of Movement	0	0	0	0	0	0	0	0
Nervous System	0	0	0	0	1	3	11	1
Cancer	0	0	0	1	2	6	12	1
Assimilative	0	0	0	0	0	1	1	0
Total	0	0	1	3	11	26	60	4

partment engineers a new industrial health model each year, and the specifications of each are based on the previous year's experience as shown in the vital statistical studies.

The procedure is simple, but it is logical and effective. To illustrate: Tables 1 and 2 show the chronic non-occupational disabilities occurring in 186,000 male and 34,000 female employees respectively during the calendar year of 1947.

Strangely, and perhaps unexpectedly, the most important source of chronic disability last year among males was in diseases of the organs of movement, such as joints, bones, muscles, and nerves. They included chronic rheumatisms, myalgia, arthritis, and neuritis.

As shown in Table 3, which records the death rates of approximately 300,000 male and female employees, diseases of the organs of movement are not causes of death, only of impairment and disability. That finding is significant and the conclusion is obvious. The industrial medical program should give special consideration to the prevention and control of the rheumatisms and other diseases affecting the organs of movement. These take priority, and all examinations, consultations, and health education give special attention to them.

Scanning Tables 1 and 2 further, the industrial physician is impressed by the prevalence of diseases of the nervous system in women, the ratio being five times that of the men. This is an observation of great significance and important in the determination of the medical program. The industrial doctor is also impressed by the high rates of diseases of the heart, blood vessels, and kidneys in both sexes.

The present industrial health maintenance program is, therefore, engineered to assist management in furnishing healthful working conditions and environments, which is a routine year-in and year-out function of the industrial medical departments, and to help the employees in their efforts to prevent and control chronic degenerative diseases, giving particular attention to the rheumatisms and diseases of the nervous and vascular systems.

Scanning the mortality table (Table 3) which contains data from an industrial population of 300,000 people, one notes that the long-range industrial medical program must give attention to cancer as well as the other disability sources mentioned above.

It is of passing interest to observe that the more we study industrial vital statistics, the more we realize the importance of gerontology and geriatrics. But those subjects are beyond the limited purview of this brief paper.

The modern industrial health maintenance program is organized to furnish the following services:

1. Diagnosis and treatment of all *occupational* injuries or illnesses
2. Temporary care of minor non-occupational

ailments and First Aid in non-occupational emergencies
3. Consultations for necessary medical advice
4. Assistance in the diagnosis and control of tuberculosis and other communicable diseases
5. Examination at the time of employment to aid in proper placement on a job for which the employee is best suited
6. Periodic examinations to aid in the maintenance of the employee's health
7. Granting of sick leaves and approval of return to work
8. Plant inspection and control of possible sources of occupational diseases

These, however, vary from year to year in accordance with results and trends shown by studies of industrial vital statistics.

The Participation of Official Health Departments and Coöperating Voluntary Agencies in a National Program for Home Safety*

The American Public Health Association, the U. S. Public Health Service, and other national health agencies to a total of 37 are members of the Home Safety Conference. The following declaration bearing on the participation of health departments and voluntary agencies as adopted by the Home Conference of the National Safety Council is reprinted herewith.

Accidents in the home are responsible for more deaths and injuries than any other accident classification; more than 30,000 people are killed and more than 5,000,000 injured every year in home accidents.

In considering what to do about this enormous accident toll, the Home Conference is well aware of the recent policy statement by the National Safety Council's Board of Directors, pointing out that "the size and complexity of the accident problem require the acceptance of responsibility not alone by individuals but by organizations and agencies, such as are found in agriculture, transportation, business and industry, civic enterprises, health and welfare work, education, government and labor."

The particular role of government agencies in safety has been well established for many years in some fields. For example, police, motor vehicle, and highway departments are recognized as having primary responsibility for traffic safety. Likewise, industrial and labor departments administer laws for industrial safety.

The last few years have seen an aroused interest in safety on the part of official health departments, on the community, state, and national level. While this interest has by no means been exclusively in matters of home safety, home accident prevention has been by far the most important target of health department work in the field of safety.

The Home Conference views this increasing safety interest on the part of health departments with appreciation and enthusiasm. In particular, the Conference wishes to recognize the very important part which official health agencies can play in the promotion of home safety. Public health departments have developed over the years many close contacts with the homes of our citizens. In the control of communicable diseases, public nursing services, general health education, and many other activities, health departments have developed and maintained channels of contact between health departments and the home.

With these facts in mind, we call upon official health departments throughout the country to expand their efforts in the field of home safety. In doing so we have no thought that these departments will or should be uninterested in other phases of safety, nor do we have any thought of discouraging the interest of any other governmental unit or of any non-governmental safety agency in home accident prevention.

In calling for an expanded program of home safety by health departments we wish to emphasize our belief that the greatest success can be achieved only through the cooperative and coördinated efforts of official agencies and of voluntary safety and health agencies working together. The Home Conference, we believe, offers an ideal medium for achieving such coördination and coöperation in home accident prevention.

* Adopted by Executive Committee of Home Safety Conference, January 26, 1949. Approved by the Board of Directors of the National Safety Council, March 29, 1949.

Chronic Disease

The Use of Statistics in Cancer Control Programs *

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THE words "cancer control" imply that an effort is to be made to prevent any increase in the incidence of cancer, to attempt to lower the present incidence, and to improve methods of therapy to the extent that persons who develop cancer rarely will be disabled or die from its effects. Furthermore, the word "control" implies ability to measure the success or failure of these efforts, since without quantitative measurements there can be no certainty that control is being achieved. Statistical studies and investigations, thus, are an essential part of a cancer control program.

Statistical indices should be devised to measure the success of every element of a cancer control program whether it be detection centers, diagnostic clinics, case finding, use of public health nurses, development of diagnostic tests, lay education or professional education. The development of a quantitative measure of achievement should be an integral part of the initiation of any new aspect of the cancer control program; otherwise we cannot determine the extent to which it is contributing to the control of cancer. It is obviously impractical to discuss in detail at this time the possible applications of statistics to every part of a cancer control program. Consequently this discussion will be limited to one or two applications of statistics and will attempt to show how these applications can be used to determine the success of control measures.

In developing and organizing a cancer control program, information concerning the incidence and prevalence of malignant neoplasms and the characteristics of people who contract cancer is essential. These data not only describe the magnitude of the existing problem but also provide a basis for assessing the future success of the program. Mortality statistics alone are not satisfactory for this purpose. Such data indicate the failure of present efforts to cure cancer once it has occurred. They do not adequately measure success either in preventing cancer or in curing existing cases of disease. As methods of prevention and cure of cancer improve, mortality records will become less and less useful as a sole measure of success, since they do not reveal which elements of the control program are contributing most substantially to the decline in mortality. This does not mean that mortality data are of little or no value and that their analysis should be neglected. On the contrary, they provide a large amount of useful information. But a more direct measure of the success of cancer control activities is needed, since these ac-

* Presented at a Joint Session of the Epidemiology, Health Officers, and Vital Statistics Sections of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 11, 1948.

tivities are directed toward cancer in the living population.

This realization has stimulated interest in the reporting of cancer cases and establishment of cancer registers. About one-half of the states have made cancer reportable by law or regulation. A few additional states are attempting to obtain morbidity reports on a voluntary basis. Some states have patterned cancer morbidity reporting after that for communicable diseases. A single report is obtained after diagnosis of a case of cancer; no additional information about the subsequent history of the case is received except that the fact of death may be established by checking case reports with death certificates. Other states have patterned cancer morbidity reporting after tumor registries such as those which are maintained by the American College of Surgeons and the Army Institute of Pathology. Before discussing the merits of these two systems, I would like to set forth the objectives of morbidity reporting and the role it can play in cancer control.

One of the objectives of statistical reporting of morbidity from cancer is to obtain information concerning living cases of cancer at the earliest possible stage in the development of the disease. This information should include among other items the total number of new cases diagnosed, the geographic distribution of these cases, their demographic characteristics such as age, sex, color, and marital status, the type of neoplasm, the primary site, the method of diagnosis, the stage of the disease at the time of diagnosis and identification of who made the diagnosis and provided treatment. Since many cancer cases are seen by more than one physician or hospital, the name and address of each case is essential not only to eliminate duplicate reports but also to obtain subsequent information concerning the outcome of therapy.

I do not believe that a routine morbidity reporting system should attempt to include more than a very few items beyond those mentioned above. Experience has demonstrated that extensive or complicated forms will not be accurately completed, and that resistance to reporting increases rapidly as forms become increasingly complicated. A routine reporting system is not the proper means for the collection of detailed data for the epidemiological study of human cancer although it can provide the basis for the selection of a representative sample of cases for intensive investigation of specific problems.

While the gross number of reported cases is of some interest, the full value of morbidity statistics can be obtained only by relating them to the population from which they are drawn, through the computation of rates per unit of population. To obtain reliable conclusions concerning the incidence and prevalence of cancer, morbidity reports must either include all cases, or a representative sample of all cases, diagnosed in a population of known size and composition. The purpose of morbidity reporting is defeated by incomplete or inaccurate reports.

To achieve completeness, the reporting system should cover all medical facilities, physicians, pathologists, radiologists, hospitals and clinics. Although an increasing proportion of cancer cases undoubtedly are admitted to a hospital or clinic at some time during the course of the disease, a significant number, in some areas as many as one-fifth of all cases, are treated exclusively in physicians' offices. Consequently hospital cases are not only an incomplete count of all cases but they also may be unrepresentative with respect to type of neoplasm, primary site, and possibly other factors.

Cancer morbidity reporting is incomplete if it provides only for a single report on a case. In order to evaluate therapy, follow-up reports should be ob-

tained for an indefinite period of years subsequent to treatment. The standard period for follow-up is 5 years; nearly all "cure rates" are based on 5 year "cures." Incidentally most of these are survival rates and not cure rates as they are usually called. I believe that it is unwise to limit follow-up to 5 years after treatment. A case of cancer is not cured until the possibility of the recurrence of the disease is negligible. The period of time necessary to establish this fact probably varies with the type of neoplasm, primary site, method of treatment, and other factors. Cases should be followed until their probability of dying is no greater than that of persons who have never had cancer, whether this period of time be 5, 10, 15 or an indefinite number of years.

The purposeful collection at regular intervals of information about cancer cases can be accomplished by the establishment of a cancer register. As used here, the term, cancer register, means the entire file of information concerning cancer cases, beginning with the initial report and continuing with supplementary information purposefully collected at regular intervals. It is simply selected facts from the complete history of the cases kept up to date.

A cancer register is more than a file of index cards with names on them. A register starts with a case report and becomes a register only by the addition of subsequent information purposefully collected at regular intervals. To be most successful, the register should be an integral part of an operating program and should be located where the local program actually is carried on. This may be the state health department, the local health department, or both. Although a large amount of statistical information useful in a cancer control program can be obtained from a cancer register, a register is not primarily a means for collecting data for epidemiological studies.

A cancer register originating with a morbidity case report should be distinguished from diagnostic and pathological cancer registries. These latter are collections of case histories including pathologic material, sections of tissue, and relevant clinical history, findings, and results submitted by coöperating physicians. The sponsor of the registry receives the material for permanent file, reviews diagnoses, provides or obtains consultation on the pathology of difficult cases, prepares the material so that it can be used for study and research and, in some instances, conducts follow-up studies. The essential requirement for this registry is that each case be completely and accurately documented. It is not necessary that the cases reported provide a random sample of all existing cases, since the primary purpose is an accurate description of individual cases and not a basis for inferences concerning the entire population of persons with malignant neoplasms. A registry of this nature can be successfully maintained by the voluntary submission of material by clinicians and pathologists.

The primary uses of diagnostic and pathologic registries are to assemble data for research, especially in pathology, to furnish illustrative and demonstration material for medical schools, and to assist in the training of pathologists and clinicians. Frequently, expert diagnostic advice also is given by the agency operating the registry. These registries cannot provide reliable statistical information concerning morbidity from cancer of the kind described above. Due to the selection of the cases included, the data will not yield an unbiased estimate of the relative incidence of different types of neoplasms, nor can they form the basis for the computation of survival rates representative of the total population of cancer cases. A tumor registry can provide a very valuable specialized service. It does not furnish the type of statistical

data necessary for the evaluation of a cancer control program. The distinction between the function of this type of registry and that of a register growing out of a cancer morbidity reporting system should be kept clearly in mind so that each may be assigned its proper role in any program.

If it is to be most useful, a cancer register must be closely integrated with the entire cancer control program. Many elements of the program can be built around and guided by the statistical data from the morbidity reports. Moreover, the interest and coöperation of physicians and hospitals can be maintained by regularly making available to them not only summaries of their own experience but also composite summaries of the entire population included. The statistics should be collected, not as an end in themselves, but for the use which can be made of them.

If organized along the lines indicated above, a cancer morbidity reporting system and register can measure the magnitude of the problem by means of the number of new cases diagnosed and the number of cases treated per unit of population, the location of the problem by the geographic distribution of cases, the results of education and case finding activities by the stage of the disease at time of diagnosis, improvements in diagnosis by the proportion of diagnoses established by histological or other standard methods, advances in therapy by survival rates, adequacy of case holding by the proportion of cases which regularly return for reëxamination, and the success of control measures by trends in the incidence of different types of neoplasms. These are only some of the many services which can be rendered by the reporting of cancer cases.

Before starting cancer morbidity reporting and establishing a cancer register, a health department should formulate clearly its objectives and the uses which it plans to make of the data collected. The fact that some state or city has a particular plan in operation is no guarantee that that plan will meet the needs of another area.

From what has been said above, it should be apparent that a cancer reporting system patterned after that for communicable diseases whereby a single report is obtained on each case can fulfil only a limited number of the functions which have been discussed. Moreover, it fails to provide for one of the most essential services, subsequent follow-up of cases. On the other hand, a voluntary, partial-coverage cancer register, not operated as part of a complete morbidity reporting system, can provide follow-up information but cannot provide the other general statistical data which are equally important. Such registers fail to measure completely the magnitude of the problem, either at a particular moment or over a period of time. In addition, there always is the unanswered question of the representativeness of the data.

The specific details of a cancer reporting system must be adapted to the special needs of each state. At the same time, the greatest benefits will be derived if comparable data are obtained so that the experience of one state can be compared with that of other states. In recognition of this fact, the U. S. Public Health Service and the American Cancer Society have jointly developed standard cancer report forms. The Maryland State Health Department in coöperation with the Public Health Service has initiated a demonstration local cancer control program which includes the use of these forms in morbidity reporting and the establishment of a cancer register. Statistical procedures are being developed to measure each aspect of the program with special attention to the role of public health nurses. Copies of the manual outlining the details of the reporting system and

of the other statistical procedures can be obtained upon request. The National Cancer Institute is adding persons to its staff to consult with states which wish assistance in establishing cancer morbidity reporting and cancer registers.

I have mentioned only a few of the uses of statistics in a cancer control program. I have said nothing of the role of statistics in epidemiological investigations, in the evaluation of diagnostic tests and similar activities. However, I hope that I have conveyed my belief that statistical activities, if thoughtfully planned and competently executed, form an integral part of a cancer control program.

Recent Nutrition Surveys in Newfoundland

A conference on recent nutrition surveys in Newfoundland was conducted under the auspices of the Nutrition Foundation, New York City, April 4. An international group of physicians from Canada, Great Britain, and the United States reviewed the part which improved diet can play in reducing infant mortality, lowering the tuberculosis death rate, increasing the alertness of children, and decreasing the symptoms that nutritionists attribute to dietary deficiencies. The findings of a 1948 resurvey of nutrition in Newfoundland were released, supplementing the initial survey made in August, 1944. The full report is published in the April issue of the *Canadian Medical Association Journal*.

Among the physicians participating were Dr. W. R. Aykroyd, of the F.A.O., United Nations; Dr. Norman Jolliffe, Department of Health, New York City; Dr. O. H. Lowry, Professor of Pharmacology, Washington University, St. Louis, Mo.; Dr. Percy E. Moore, Department of National Health and Welfare, Canada; Dr. W. H. Sebrell, National Institutes of Health, Bethesda; Dr. R. E. Shank, Professor of Preventive Medicine, Washington University, St. Louis, Mo.; Dr. F. F. Tisdall, Pediatrician, University of Toronto; Dr. R. M. Wilder, Professor of Medicine, Mayo Foundation, Rochester, Minn.; Dr. P. C. Zamecnik, Harvard Medical School, Boston; and Dr. Charles G. King, Director, Nutrition Foundation, New York.

According to the Nutrition Foundation, the survey of 1944 revealed that malnutrition due to the lack of thiamine, riboflavin, niacin, vitamin A, and ascorbic acid was common. These deficiencies were found in association with extensive dental caries, poor muscular development and infant mortality and tuberculosis rates from two to three times as high as those encountered in populations of similar ancestry in more favored regions. Steps were taken to improve the situation, including the enrichment of flour with thiamine, riboflavin, niacin and iron and, after January, 1947, with calcium, as well as the fortification of margarine with vitamin A. Increased emphasis was placed on education in nutrition, together with limited distribution of dry milk and cod liver oil and concentrated orange juice. Of the 868 persons examined in 1944, 227 individuals were reëxamined four years later.

The infant mortality rate in the City of St. Johns dropped from the 1940–1944 average of 102 to the 1947 rate of 61. The death rate from pulmonary tuberculosis dropped from a five year average of 135 to 101 in 1946. The death rate from all causes ranged during the five year preceding period from 11.4 to 12.5, dropping to 10.4 in 1945 and 10.5 in 1946.

Chronic Disease

Diabetes Control in a Local Health Department *

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WHAT is diabetes control? Before the discovery of insulin, the average life expectancy of a child with diabetes was about 2 years. A diabetic adult lived for an average of about 8 years. It was difficult to manage diabetes in the individual clinically, and starvation diets provided the major control measures. Public health procedures could not be adapted to the diabetes problem.

Significant changes have occurred in comparatively recent years. With advances in insulin and diet therapy, the juvenile diabetic can now look forward to an ever-increasing life span. Today, the adult, who acquires diabetes which is diagnosed early, and who is given the best treatment provided by our present medical knowledge, may expect to have a longevity which approaches and in some instances surpasses that of the average American citizen of his age. Early detection improves the clinical prognosis and offers encouragement for the prevention of complications. Prompt and aggressive therapy by a competent physician usually presages a successful treatment regimen and a happy life. The proper psychological presentation of the treatment pattern encourages the individual and helps to give good mental adjustment to the required changes in habits. This, together with painstaking education of the diabetic individual in practical methods of self management, promotes both his mental and physical well-being.

Preventive measures in diabetes which may be put to practical use by the public are now available. These are provided by our knowledge of the common factor of hereditary susceptibility in diabetes, by the high incidence of obesity usually found as a forerunner of the disease, and by the frequency with which acute infection or exacerbation of chronic infection "lights up" the pathological process. Therefore, while we do not know the exact causative agent or the specific host factor responsible for diabetes, we do know enough about its course and conditional factors to define and delimit diabetes control. Early detection, prompt referral to a physician for competent treatment, and thorough education of the diabetic patient and his family constitute important components of diabetes control in the individual and in the community. To these control factors must be added the problems of employment adjustment and the provision of adequate clinical and hospital facilities for the diabetic population.

Interpret the death rates from dia-

* Presented at a Joint Session of the Epidemiology, Health Officers, and Statistics Sections of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 11, 1948.

betes as you wish, but as public health workers we should concern ourselves more with the current problems of the living diabetics. Living diabetics are increasing in number. Various experts have estimated that there are one million known diabetics in the United States, and recent large-scale laboratory studies of population groups in several communities have been used as bases for estimates that the number of unknown cases represents a comparable figure. People with diabetes are living longer, and with longer life have come premature arteriosclerotic complications particularly in those cases poorly controlled, where invalidism often results. In many and probably most of such complicated cases the disease was not recognized and treated until gross symptoms were evident. The disease thus takes a definite place in the health picture of any community and should, therefore, be of interest to the local health authority.

Diabetes has several definite characteristics which set it apart from the other members of the chronic disease group. Its treatment is carried out almost entirely by the individual patient under the supervision of his physician. There is no permanent remedy, but with good treatment the patient survives for a normal span of life. People with properly treated diabetes have been outstanding in sports, and in professional and political life; however, if diabetes is improperly controlled, it will cause hospital beds to be filled and will use up badly needed nursing services. The efficiency and productivity of the average diabetic patient is excellent when his disease is under control. However, he can easily become a drain on society when he is improperly treated and when his disease is poorly managed.

The present state of medical knowledge is such as to permit an active community program in diabetes control. There are relatively inexpensive and simple laboratory procedures available to aid in the detection and diagnosis of diabetes. As far as is known, there occurs in all cases of diabetes mellitus an increase in the amount of blood sugar, and in nearly all cases an excretion of sugar in the urine. Since 1922, there has been a corrective treatment available, in the form of insulin, which can restore patients from diabetic coma and impending death to a condition approximating complete health.

How can public health workers contribute to the health of a community through a diabetes control program? First, there is every indication that there are many undetected cases of diabetes in most population groups. In the survey conducted by the Public Health Service in Oxford, Mass., in 1946, almost as many unknown cases of diabetes were found as there were known cases. Every internist has experienced the situation where persons were first informed that they had diabetes when they were aroused from a diabetic coma. In one large medical institution, the disease of one of every six diabetics who are seen is discovered in a general examination, which is usually given for some other condition. A large percentage of the cases of diabetes found as a result of life insurance examinations show no history of the usual symptoms of diabetes.

Second, the personal aspect of the treatment of diabetes necessitates careful patient education in the basic principles of diabetes therapy. These two points suggest some of the opportunities which public health workers have to assist the practising medical profession in diabetes control. Since professional public health workers are schooled in diagnostic screening procedures and in health education, the application of these two skills, in close coöperation with organized medicine, will improve the diabetes control situation in almost any community. The Diabetes Section of the Public Health Service has been

in existence for two years. During this time diabetes prevalence studies have been made. Diabetes Demonstration Units have been established and have functioned as part of the local health departments in Jacksonville, Fla., and in Brookline, Mass. These units have been engaged in developing and demonstrating various ways of applying public health methods in diabetes control.

The unit in Jacksonville was established upon the invitation of the Duval County Medical Society. Personnel specially trained in diabetes mellitus were furnished as an intact unit by the Public Health Service. Valuable contributions to the program were made by the state and local health departments and necessary groups. The local medical society through its Diabetes Advisory Committee, has given support and guidance to the program. The Public Health Service personnel assigned to the Jacksonville demonstration unit includes 1 public health physician, 1 public health nurse, 1 nutritionist, 2 laboratory technicians and a secretary. A Medical Advisory Committee, composed of local physicians and public health workers, has reviewed all phases of the program with the director of the unit, has given advice on new projects, and has acted as liaison with the medical profession. This advisory committee includes two prominent internists, one of whom is director of the Diabetes Clinic at the County Hospital; the state, county, and city health officers; and a representative from the local Negro medical society.

At the start of the program in Jacksonville a register of known diabetics was set up. Diabetes reporting was not required, but it was invited, with an offer of valuable service in return. Names of diabetic patients were furnished by medical practitioners in the county hospital clinic and by other sources, including the Visiting Nurses' Association and patients themselves. Physicians have continued to send in the names of new patients, and periodic requests are made of all physicians to furnish names of new patients so that the register may be kept up-to-date. This register has proved useful, and is expected to furnish valuable information. At present, it contains a total of 845 names.

The diabetes control program in Brookline is conducted by the local health department with assistance from the Diabetes Section of the Public Health Service. Real efforts have been exerted to make this a true community project. The sponsorship of the program, most of the policy decisions, and a significant amount of the community work are provided by a lay advisory committee and a Medical Advisory Committee. The lay committee—The Diabetes Control Committee of Brookline—is composed of 26 local residents, interested and active in civic and community affairs. The Medical Advisory Committee has a membership of 13 Brookline physicians, who serve because of their special interest in diabetes and in community activities.

The Brookline experience indicates that one effective method of stimulating interest in diabetes is to make it convenient for people to take advantage of testing services. Temporary testing facilities are set up in various sections of the town. These temporary screening clinics usually operate in each section for a week or more, and move about the town. In addition to the neighborhood or sectional temporary screening stations, regular diabetes testing and diagnostic clinics are held in the health department building both afternoons and evenings. Persons of all ages are admitted to any of these clinics, preferably 1 to 2 hours after a full meal. At the first visit a urine sugar test and a capillary blood sugar test are given. If the values found as a result of these tests are within normal limits, the patient is informed that there is no labora-

tory evidence of abnormal findings at that time, and his physician is notified of the actual values. If the values are higher than normal the patient is contacted by letter or telephone and given another definite appointment for a recheck. His diet should be relatively high in carbohydrates at each meal for at least 3 days prior to the reëxamination. He is instructed to eat a meal containing approximately 100 gm. of carbohydrates 1 hour before his appointment, and is given specific instructions about this meal. At the second visit, another urine sugar test is made, and both capillary and venous blood are analyzed. If further study is indicated, the patient is then given an appointment for a glucose tolerance test. In the demonstration units no definite diagnosis of diabetes is given to the patient. He may be told that he has higher sugar values than normal, but he is not informed that he has diabetes. The patient is always referred to his own physician for diagnosis and this physician is always notified of the results of all the laboratory work.

In Brookline, to date, 3,720 people have been tested and 71 cases of previously unknown diabetes detected. This is not, of course, a random sample. But there has been no effort to select the group tested.

In November, 1947, when a mass chest x-ray survey was being conducted by the Brookline Health Department, diabetes testing facilities were set up, and handbills announcing the diabetes detection program were circulated among the group being x-rayed. Ten new cases of tuberculosis (or 0.16 per cent) were found among about 6,000 persons x-rayed. About 2,100 of these same people, or about one-third of those x-rayed, responded to the offer of diabetes tests at the same visit. Limited laboratory facilities prevented testing of additional people. Eighteen previously unknown diabetics (or 0.9 per cent) were detected in this smaller group. The diabetes discovery rate was more than five times as high as the tuberculosis discovery rate.

The methods used for screening population groups for diabetes have differed in some minor respects but essentially consist of post-prandial analyses of both blood and urine for sugar. The tests are preferably given to the subjects from 1 to 2 hours after they have eaten a full meal. Either capillary or venous blood sugar determinations are satisfactory. In Brookline, mostly capillary blood specimens have been collected, and in Jacksonville venous specimens have usually been obtained. If the tests show hyperglycemia or glycosuria, additional or recheck tests are made. These may consist either of a repetition of the same type of examination or performance of the standard glucose tolerance test. Those persons with confirmed abnormal laboratory findings are urged to see their family doctor. The laboratory results are sent to this doctor. The responsibility for interpretation of the laboratory results and for a diagnosis of diabetes rests with the patient's physician.

Different approaches to testing the population were developed in the two demonstration areas. In Jacksonville various population groups were contacted. One of the most successful projects was the testing of the blood relatives of diabetics. When a case of known diabetes is brought to the attention of the demonstration unit, with clearance from the attending physician, one of the public health nurses assigned to the unit itself or to one of the several coöperating agencies calls on the patient. A list of relatives living within the area is obtained. Relatives are then sent a form letter describing the high incidence of diabetes among relatives of known diabetics, and explaining how frequently the disease can occur without

detection. They are offered an opportunity to be tested, and an appointment is made for diabetes testing at the health department. The source diabetic is also informed of the time and place of his relative's appointment, and is urged to assist the health officer in the effort to get the relative tested. In a group of 753 relatives tested approximately 3.7 per cent of previously undetected diabetes has been found.

Education of the diabetic patient is a *sine qua non* of proper management. There is an opportunity for the local health department to coöperate with and assist the physician in the accomplishment of this objective. Recognizing that there is no objective of diabetes control more important than education of the patient, the Jacksonville unit organized with the coöperation of the medical advisory groups a public health class for diabetics. The demonstration unit furnished the instructors, the State Board of Health provided the materials, and the Duval County Hospital the classroom. The Medical Advisory Committee reviewed the plans and content of the educational program. The class was publicized through letters to local physicians and through notices in each of the four local newspapers. As a result, 125 persons attended the first session of the class. A total of 415 persons have already attended the series of six classes, each of which lasts 2 hours. About half of these people have been referred by private physicians.

The instruction is given by the unit physician, the public health nurse, and the nutritionist. The following topics are included in the total of 12 hours of classroom instruction.

Topics for Classroom Instruction

The nature of diabetes
Insulin—its source and action
Insulin reaction—its avoidance
Nutrition and diabetes
  Diet—Carbohydrates, Proteins, Fats
Complications—their prevention
  Infection, Sickness, Personal Hygiene
Sugar in blood and urine
  Urine testing methods
  Blood sugar analysis
Travel problem in diabetes
Selection and preparation of menus and lunches
Discussion period

The classes are conducted mainly by the discussion method, and participation by the patients is encouraged. Generous use is made of visual aids, such as moving pictures, charts and models (including food models). One class was given in a rural health center in the surrounding county area in order to bring this educational service directly to the consumer group.

An attempt was made in these classes to learn what the average diabetic patient knows about diabetes. A simple pre-test, based on the principles necessary for the adequate and accurate control of diabetes was given to diabetics attending their first lecture. The test was made as simple as possible, with only a "yes" or "no" answer required.

It is often quite difficult for the patient to acquire all the knowledge which he must have of the various techniques concerned with the treatment of diabetes. The patient must become adjusted and acquire wholesome psychological and philosophical attitudes toward his diabetic condition. In addition, he must learn several technical procedures which may be difficult if he does not possess the necessary background or orientation. The intricacies of diet substitution, of sterile techniques, and the injection of insulin seem to be particularly difficult for some age groups, particularly for children and for women past middle age. It is in the latter group, especially, that diabetes seems to be concentrated. Thus, follow-up is frequently found necessary after the initial course of instruction. The patient needs encouragement as well as a general review of his under-

standing and adherence to the diabetic regime.

In the Jacksonville unit, public health nurses and dietitians, under the direction of the physician in charge, take care of this follow-up when necessary, through home visits. The visits are made either at the request of the patient or his physician. In consultation with the Medical Advisory Committee a regular schedule of home visits is now being worked out. It is planned that every patient will be visited in his home, if possible, and will be encouraged to keep regular appointments for check-ups with his family doctor. This schedule will provide an opportunity for seeing the patient in his home environment and to study all the factors which affect his adherence to the treatment prescribed by his physician. The nurses, of course, can be of invaluable service in this phase of the control program. Almost without exception, the patients are deeply appreciative of this service and in the cases of invalids with diabetes, it is particularly valuable and always appreciated.

It is fortunate that a tolerance test is necessary on only a relatively few. It usually takes about 3 hours to complete the standard glucose tolerance test. During this time, however, the patient is actually busy with the doctor, nurse, or technician for little over ½ hour. The patient usually has nothing to do during the remainder of this period, except to wait for the next part of the test. Consequently, this interval has been used to good advantage by the health staff for giving instruction in causation factors in diabetes. This instruction includes a general discussion of the basic physiology involved in the glucose tolerance test and of the general aspects of diabetes. Since many of the persons waiting to be examined are overweight, an explanation of obesity and how it may be controlled is usually given. The discussions are then supplemented by films and pamphlets. We have found that the patients are particularly receptive when the tests are being performed, and we believe that, while the number reached in this manner may be small, a great deal of permanent value is accomplished.

A monthly news letter which goes to all known diabetic patients listed on the Jacksonville registry provides still another avenue for diabetes education. These one page bulletins, which are written in as simple language as possible for diabetic patients, are prepared and distributed in coöperation with the Medical Advisory Group and the local health agencies. They stress some of the important aspects of diabetes control and attempt to keep the patient informed of new advances in diabetic knowledge, new equipment, and timely advice on such matters as diet, avoidance of colds, foot infections, etc. The person with diabetes has a disease that will be with him the rest of his life and he needs constant encouragement, as well as the reiteration of the principles of adequate diabetes control, if he is to pay careful attention to a proper diabetic regime continuously for a period of many years. The repetition of some or all of the instruction classes, but particularly the regular distribution of this short and stimulating news letter goes far toward accomplishing this objective.

We have had the important coöperation of local pharmacists, in Jacksonville particularly, in offering aid and publicity for the various diabetes projects. The diabetic patient sees his pharmacist much more often than he sees his physician. He must purchase his insulin at approximately 2 to 4 week intervals. He needs other diabetic supplies, such as needles, syringes, cotton, etc. The local pharmaceutical association in Jacksonville coöperated in a recent campaign to acquaint diabetics in the area with the diabetes control program.

One of the projects of the American Diabetes Association is the sponsoring of local diabetes associations, which are divided into lay and professional sections. Diabetics are encouraged to join the lay sections. The professional sections, on the other hand, have excellent opportunities to put emphasis on improvement in detection and treatment techniques. The personnel of demonstration units can and have been active in initiating and coöperating in the organization of local diabetes associations. Much interest is nearly always shown by both diabetics and professional people and it can be predicted that once such a local program is under way it will be highly successful.

The nutritionist or dietitian associated with the health department can give valuable assistance in a diabetes control program. In coöperation with local dietetic groups there can be brought about the standardization of diabetic diets for the local area.

As is true with any public health program, relations with the practising medical profession must be cordial and cooperative if the diabetes control program is to be ultimately successful. Every attempt has been made to foster such a spirit of unity and concord in local areas. Medical advisory committees have been organized and physicians are constantly advised and informed, through their medical societies, of the progress and major aspects of the program. As might be expected, at the start of a new program, the physicians and other health workers, official and voluntary, at first viewed the diabetes control program with a judicious but not uncritical eye. As the details of the program unfolded before the physicians in the demonstration areas, however, they have expressed their appreciation and coöperation.

Undoubtedly there remains more to be done in constructing plans of control of diabetes on a mass basis and in setting up comprehensive diabetes programs which will be suitable for all local health departments. However, it seems that several facts are established through the experience of the demonstration units—that diabetes is amenable to public health control measures, and that a basic pattern for a workable control program has begun to emerge. Progress in the detection and management of diabetes is a coöperative responsibility. With the active help and support of the practising physician of official and voluntary health organizations, of nurses, dietitians, and all other health workers, we can make important progress toward attaining the goal of better diabetes control in our community and in our nation.

SUMMARY

Diabetes control is a community as well as an individual health problem. Diabetes, one of the chronic diseases which have long been neglected, should have a place in a local health department program, and diabetes control should be integrated with other chronic disease control programs where such programs exist.

Active public health programs in diabetes in Jacksonville, Fla., and Brookline, Mass., are described as coöperative endeavors between the Diabetes Section of the Public Health Service and local health departments. The objectives of the diabetes control program are primarily case finding (early detection), referral to practising physicians for treatment, and education of the public in general, and of the diabetic patient in particular. The procedures used in screening for diabetes and in the various phases of the diabetes educational program are described. Of particular significance are the diabetes discovery rates in the demonstration control programs, especially among the relatives of known cases of diabetes mellitus.

A Health Officer Survey of a Medical Care Program*

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THE health officers of the 23 counties of Maryland were challenged more than three years ago to put into effect an extensive and quite novel addition to the plans and activities of their several health departments, a program of medical care for the indigent and medically indigent. They had followed with keen interest the origins of the movement and the studies and exhaustive discussions of those who were designated to find a practical solution to the difficult problem. The underlying philosophy of the plan finally adopted was by no means unfamiliar to the health officers, for in 1944 the Committee on Medical Care of the State Planning Commission had made a report of its three year study to the Medical and Chirurgical Faculty of Maryland.[1] On the contrary, interest rode high and the physicians in charge of the local health departments of the state were thus enthusiastically ready to go when the legislature in 1945 provided for the actual inauguration and conduct of a medical care program by the state and local health departments.[2] It is, therefore, not surprising that the health officers of Maryland counties have enjoyed planning and putting into effect their own local medical care programs and that their efforts have resulted in the attainment of a very considerable degree of success. Our health officers agree that improvement both in medical care and in the usual preventive services has resulted from the joint efforts of the staffs of the local health departments and of the central Bureau of Medical Services of the State Health Department whose specific function it is to carry out the provisions of the medical care law.

In the counties of Maryland the medical care program is designed to reach persons receiving public assistance and those not on relief but who are unable to pay for needed medical care. Those individuals on public assistance, referred to as the "indigent," total about 17,000. They are certified periodically to the county health department by the county welfare department and are automatically supplied with identification cards establishing their eligibility for a 6 month period. Persons not on relief but not able to pay for needed medical care may make application for services to the county health department. If their income is within the limitations established by the program they are certified for eligibility for curative services for a specific period of time. In this certification the health officer has broad discretionary authority with regard to evaluating social, medical, and economic factors of the individual or family. Although the scope of medical care services varies from county to county, home and office care by physicians, prescribed drugs and acute dental care are provided in all counties. There is provision in the majority of the

* Presented before the Health Officers Section of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 12, 1948.

counties for hospital calls, acute and elective surgery, maternity care, consultations, and diagnostic laboratory services. Of the 23 counties, 15 provide elective dental care including dentures. In all counties full use is made of the existing clinical programs of the health department such as the prenatal, child hygiene, venereal disease, and tuberculosis clinics.

The physicians, judging from their actions and expressed opinions at state and county medical societies have supported the medical care program from the beginning. Their active interest has continued. Physicians are represented on the Committee on Medical Care of the State Planning Commission, and on the State Council on Medical Care which guides the Board of Health, and on each of the county advisory committees. The majority of physicians are taking an active part in the program, and the same is true of the dentists and pharmacists. Payment is on the fee-for-service principle following a uniform fee schedule recommended by the Council on Medical Care. The individual private physician submits at the end of each month a simplified medical report for each patient under the program, whom he has treated during the month. This report is first reviewed and approved by the county health officer and then sent to the state office from which payment is issued. Of the approximately 25,000 persons in the counties who are in possession of certificates of eligibility, about 5,000 receive physicians' services each month. From the beginning of the program 957 physicians have participated. A substantial number of these physicians have their offices in Baltimore City, not in any county, and a few are out of the state. There are 693 physicians in the counties, and of these 592, or 87 per cent, have participated in the medical care program. Each month between 450 and 500 physicians participate in the program.

Although no attempt has been made formally to determine, in their own words, what the recipients think of the program and its services, the county health officers receive daily the opinions of many patients receiving care. Almost universally there is satisfaction on the part of recipients and gratitude for the office and home medical services given them by the nearby physicians and dentists of their own choice. The health officer is pleased to note the general response to the medical care program, both by those who give and by those who receive curative services. Before the program began health officers were embarrassed by having many persons apply to them for medical care, and in most cases they were unable to render any assistance. When such persons were, of necessity, referred to a private physician, the health officer felt that the service rendered by the physician to the patient was regarded as a personal favor to the health officer.

Fuller accounts of the basic concepts, the beginnings and the progress of a state-health-department-sponsored medical care program as illustrated by the experiences in Maryland have already appeared.[3–5] A further description of the many novel administrative techniques which had to be developed in this program, many of them unique patterns for the future, a few almost completely without precedent, would not be appropriate at this present discussion. Rather, I prefer to speak about how the health officers of Maryland have attempted to solve some of the problems which arose when they were called on to develop a workable administrative machinery for integrating the varied services required for medical care, into the already existing system of preventive services. I shall point out a few representative situations and how we, as local health officers, have reacted to them.

As a background of the actions and

reactions of the health officers of Maryland to the medical care program, it is necessary to point out that in Maryland the delegation of administrative responsibility for the operation of the plan was made possible by the complete system of county health departments which has been in operation in the state during the last two decades. Each of the 23 counties has a health department, with at least a minimum staff, consisting of a physician who is the health officer, two or more public health nurses, and clerical personnel, all serving on a full-time basis. In the larger counties this minimum staff is supplemented by assistant health officers, dentists, additional nurses and nursing supervisors, medical-social workers, sanitarians, and other auxiliary personnel. The administrative head of each county department serves both as county health officer and deputy state health officer. He is appointed by the county board of health, but his appointment must be approved by the State Board of Health. As county health officer, he is responsible to the county board of health, and as deputy state health officer, he is responsible to the State Director of Health. The administration of the local medical care program is entrusted to the health officer in his capacity as deputy state health officer. The health officer thus has the responsibility for developing an efficient curative program and, at the same time, an opportunity to strengthen and enlarge the already existing preventive services.

It was early apparent to each health officer, just before the medical care program was inaugurated in his department, that this new function needed to be publicized and interpreted promptly to as many people as possible in the community. This was done, first, by the usual methods of disseminating information: addresses to the medical association, letters to physicians, dentists, and pharmacists, news releases, conferences with heads of official and nonofficial agencies, and informal talks by the health officer with professional and lay people of his acquaintance in the community. This sudden increase in his contacts helped him immeasurably to publicize his existing preventive program, because he would not and did not want to explain and teach the services of one program without doing so for the other. The continuing interpretation of his entire program to the profession, to community agencies, and through them to the public, was facilitated by the development of a new and valuable administrative aid, the county advisory committee on medical care. This committee includes representatives of the medical, dental, and pharmaceutical professions, of the local board of health, welfare agencies, board of education, nursing and lay health organizations. If health officers were asked to name the single most useful and effective factor in the operation of the medical care program and its integration with the preventive program, the almost unanimous choice would be the county advisory committee, functioning with their imaginative leadership and intimately associated in its deliberations with the statewide advisory body of which the State Director of the Bureau of Medical Services acts as secretary.

The multiplication in the number of contacts between the health officer and the medical and dental professions resulting from the inauguration of the medical care program has been welcomed by the health officer who knows that more contacts mean increasing his services both preventive and curative to the professions and to the people. He has found that he should have a personal interview with every new physician who establishes a practice in the county, and in some counties he can periodically visit all the private physicians. He has learned that when a friendly coöperative relationship has been established with a

physician, a regular visit by one of his public health nurses, offering her help in his work with his own patients, is a valuable aid in enhancing good will for the health department.

Many health departments had already established master index files of all preventive services rendered to an individual, but with the establishment of the medical care program there has arisen the evident need of an index card file of all services, both curative and preventive, in each county. Some departments have started this all-service file for securing and exchanging information of services rendered or to be rendered, particularly by public health nurses. They will find the use of the file to be of value in improving the efficiency of their visits to individuals and families. In addition, the department file of summary sheets of medical care services specifically rendered an individual should be active, and the records carefully reviewed periodically by the health officer to secure information to be used, not only when he confers with physicians about particular cases, but also for transmittal to the public health nurses who may more intelligently deal with their patients.

The need has become more evident, since the beginning of the medical care program, for making preventive as well as curative services readily available to a segment of the population which has for the most part not previously been reached by the health department. Prenatal and infant and preschool hygiene clinics are being enlarged and expanded as well as school health services. Consultation clinics, often developed in the past around preventive programs in such fields as obstetrics, pediatrics, and orthopedics should now be expanded in new fields such as internal medicine, psychiatry, gynecology, and surgery. In some counties it will be feasible to combine several specialized clinics into a general diagnostic clinic. Patients of the medical care program can and should be encouraged to receive two of the most valuable aids to diagnosis already in the preventive program, an x-ray of the chest and chemical and microscopic examination of the urine at clinics already being conducted.

A bedside nursing service is certainly recognized as perhaps the means of choice in bringing both the curative and preventive services directly to the individual and family by the public health nurse who, in bedside work, goes over the doorstep and into the very sickroom of the patient. Of course, the paucity of public health nurses in anything approaching a practical ratio of nurse to population is the present barrier in making this type of nursing service an immediate part of the health department's program, particularly in the larger counties. However, three counties under the able sponsorship of the State Division of Public Health Nursing have inaugurated trial programs of bedside nursing and patterns for the future, and in other counties are being successfully developed.

There are, of course, other improvements to be made along the lines of coordinating the preventive and curative services of health departments. One of these is the extension and enlargement of dental services in the three large areas of endeavor: (1) preventive, (2) preventive-curative, and (3) restorative. Vigorous efforts should be made by health officers to effect as soon as possible a closer day-by-day working relationship between the department's curative services and the individual practitioner of dentistry. It is expected shortly to arrive at specific recommendations as to ways of improving distribution of dental health information to private dentists when a contemplated special committee of health officers for public health education standards is activated.

Experience in the medical care pro-

gram has shown the health officer that laboratory service needs to be enlarged, as is necessary in order to meet the growing demands placed upon it by patients actually treated clinically in the medical care program. Already the staffs of the 11 branch laboratories of the State Department of Health have been enlarged in order that they may perform clinical laboratory tests for medical care patients. Most of these laboratories are now able to offer to the physician the usual hematologic examinations, blood chemistry, urinalysis, serologic tests, and bacteriologic examinations. In addition to these expansions, steps should be taken to inform continuingly all the private physicians of the county concerning the exact nature of laboratory services which are currently available. Health officers believe that leaflets should be prepared and issued by the State Bureau of Bacteriology to private physicians and county health departments relating the clinical features of the more common diseases with the types of tests which can be made and the character, value, interpretations, and limitations of the various tests.

In May, 1947, a little more than two years after medical care became a reality in Maryland the Director of Health appointed a committee of four health officers and two representatives of the central office to study and make recommendations concerning the ways and means for establishing policies to promote closer coördination between the preventive and curative services. Before making its report[6] the committee shared its findings with the health officers of all the counties. The interchange of experiences at this meeting was acclaimed by the health officers as a factor of first importance in indicating the practical steps to be taken in each county toward unifying the preventive and curative services.

The health officers of Maryland believe that their efforts to establish and operate the local medical care program and to coördinate the preventive and curative services have been attended by measurable and demonstrable success. The individual health officer has shown an eagerness to carry on the medical care program because he sees in it an opportunity for enlarging what he considers to be his own and his staff's usefulness in the public health field. He has looked upon the inauguration and operation of his medical care program as a forthright challenge of his talents and abilities to devise and carry out an intricate series of administrative procedures. More than any other health department function in recent years, the medical care program has given an opportunity, long sought by many health officers, for expanding his public health and civic leadership. He has been fortunate in having the guidance and service of an alert State Bureau of Medical Services, closely and actively associated with him in the work of formulating and carrying out county as well as statewide medical care policies. It is this working together of the health officer and his Bureau of Medical Services and his own advisory groups that has made medical care an exciting and satisfying administrative experience to the health officers in the counties of Maryland.

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Nutrition Course for Students of Public Health*

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NUTRITION represents one of the relatively newer activities in public health work. This is due in part to problems arising out of the recent war and in part to a natural maturation of the field of public health. These two processes have brought about an increased awareness and demand on the part of the public, accompanied by an increased interest on the part of some of the various members of the public health profession in problems and programs relating to public health nutrition.

The fulfillment of these demands and interests has been hampered by four outstanding factors: (a) the inadequate numbers of all types of public health personnel, among whom are now included nutritionists; (b) some uncertainty concerning the modus operandi of a satisfactory program of public health nutrition; (c) misunderstanding concerning those persons in the public health family who should be charged with responsibility for work in the field of public health nutrition; and (d) the relative lack of a satisfactory, time-proven pattern for the teaching of public health nutrition. The primary purpose of this paper is to discuss the last of these four factors. It is obviously impossible to do so, however, without first giving some consideration to the other three.

The report *Local Health Units for the Nation* has brought into the national consciousness the discrepancies between existing and needed personnel in all branches of public health service. While public health nutritionists are not specifically considered in that report, its conclusions apply to that professional group, perhaps all the more so, because of the relative newness of applied promotive nutritional work in the public health program. Considerable variation exists in terms of the numbers of workers employed by health agencies specifically for work in nutrition. Data presented at the nutrition section of the National Health Assembly in May, 1948, indicated a total of 203 positions in public health nutrition in the 51 state and territorial health agencies. Of these, 35 were unfilled. At the present time (August, 1948) 7 of the state health agencies have no nutritionists in their employ, in 3 instances because no position exists and in 4 instances because of vacancies. The number of positions for nutritionists in state health agencies ranges from none in the 3 instances referred to above (Nevada, South Dakota, and Wyoming) to a maximum of ten in each of 2 states, the mode being about 2 positions.

One cannot help receiving the unfortunate impression that at the present time considerable misunderstanding and confusion exists with regard to the desired content and purposes of a program

* Presented before the Food and Nutrition Section of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 9, 1948.

in public health nutrition. Many public health workers look upon nutrition as a highly specialized field, success in which depends entirely upon the efforts of a few specially trained and interested physicians and nutritionists. One reason for this is that, all too often, nutrition programs are considered to be synonymous with diet therapy or with group feeding. Another possible reason is the considerable interest in, and possible over-emphasis on, the many nutrition surveys that have been conducted during the past 10 or 15 years. Studies such as these, while valuable in terms of determining base lines and research technics, are sometimes misinterpreted as representing the epitome of a complete satisfactory public health nutrition program. It should be remembered that but little control of tuberculosis would be accomplished if tuberculosis programs consisted merely of the development of diagnostic methods and the determination of the general level of infection in selected groups of the population. These activities simply constitute a starting point for the achievement of the ultimate goal of control.

Many other factors lead to a lack of interest on the part of many public health workers. There is a widespread tendency to consider nutrition only in a negative sense rather than from a preventive and promotive viewpoint. A failure to appreciate the extent and seriousness of the total problem has led some to regard any nutrition program as somewhat of a frill, to be engaged in when funds, particularly outside funds, are plentiful, and quickly dropped when they become scarce. Still others consider nutritional problems to be so intangible as to make it impossible to weave a practical, fruitful approach into the fabric of the total public health program.

It is appropriate, therefore, to inquire into the manner in which health agencies might concern themselves with nutrition. The public health approach must of necessity differ from other approaches to the subject. The agronomist is primarily concerned with the production of foodstuffs, the home economist with the proper preparation of foods, the biochemist with the minutiae of food assessment and the analysis of materials from the body which may reflect adequacy or inadequacy of intake and use of the component parts of the diet, and the clinician with the physical signs and symptoms of nutritional adequacy or deficiency. The public health worker, on the other hand, cannot restrict his interest and concern to any one or several of these. His approach to nutrition, as in the case of any other problem with which he is confronted, must be of a practical down-to-earth nature, viewing the people as an ultimate whole rather than as isolated individuals. The primary job at hand is to assist people in general in applying what scientific information is available at present in order that they may achieve a longer, healthier, more fruitful existence. To reach this goal requires a synthesis of many viewpoints: economic, sociological, clinical and educational, to mention but a few.

Fundamentally the program must take the form of continuous public education, assisting people in their efforts to meet their nutritional problems successfully. To accomplish this involves the breakdown, with the consent and coöperation of the public, of faulty traditional dietary habits, and the translation of scientific dietary analysis and planning into readily understood terms used commonly by the public. To alter ingrained habits and customs, especially those related to a function as personal as eating, is usually accomplished slowly and with great difficulty. To do so involves dealing with racial, regional, and familial customs; with prides, prejudices, superstitions and fears. The only successful approach is one which maneuvers com-

munity thought into the position of itself recognizing the needs and the remedies at hand.

To make a special, pointed attempt to accomplish these ends, all too often gives the impression that the health department is trying to sell the public a "bill of goods." One of the best ways of avoiding this unfortunate interpretation is to integrate applied nutrition into as many phases of the general public health program as is possible and the number of possibilities for doing this is surprisingly high. There are very few if any cases on the public health nurse's roster, for example, that do not need and cannot be given some simple but pertinent instruction in nutrition. Surely this is important in cases of acute communicable diseases, tuberculosis, and many non-communicable diseases such as diabetes and heart disease with which public health nurses are becoming increasingly concerned. Prenatal and well baby conferences offer particularly fruitful avenues of approach. The school health program provides an opportunity to show not only how the school lunch program may best be carried out, but also how sound nutrition information can be presented dramatically and effectively in the study of geography, economics, civics, and even arithmetic. Beyond this, with the general public in mind, the overall community health education program should give a fair share of attention to discussions, news releases, and radio talks on subjects relating to nutrition.

The medical personnel of the health department, in addition to having available all of the avenues of approach mentioned above, may work through another channel, the local members of the medical profession. In consultations, informal contacts, and talks given at medical society meetings, much might be done to increase the extent to which the private practitioners are nutrition conscious. The offering of nutrition consultation services to private physicians might be worth while in attempting to accomplish this end.

Most apt to be forgotten is the public health engineer or sanitarian, who, of all public health personnel, actually is most intimately concerned with food. It is he who visits the dairies, milk plants, restaurants, and food stores. If assisted to a wider horizon he may do much more than supervise the bacterial quality of food materials. His contacts with dairy farmers very often lead to discussions of various types of cattle feed and their effect on general health and function. To transfer conclusions to the human population is but a short step, although the taking of that step has already required the passage of several centuries.

With these few brief examples in mind we may answer perhaps more adequately the question—for whom should courses in public health nutrition be designed? If there is a shortage of nutrition specialists and of funds with which to employ them generally, and if all of the diverse professional types working in public health have a very real potential contribution to make in this area, then why not design the course in public health nutrition to meet the needs of the broader professional group.

It is obvious that the course should not be limited to a study of the biochemical constitution of foods, average daily requirements of essential food factors, and the consequences of an inadequate supply or use of them. Too often courses in nutrition for public health workers have stopped here. This is wholly inadequate. It is easily possible to possess a considerable mass of scientific facts and yet, for various reasons, be unable to apply them for the betterment of the people.

To begin with, it would seem worth while to devote some time to a consideration of the relationship between the nutritional condition of people and

their historical, economic, political, and cultural progress; in other words, food and the welfare of nations. Intimately interwoven with this, of necessity, is a consideration of the history of the science of nutrition and its application. The student should have a proper background and incentive for going on to study the biochemical, physiological and clinical aspects of the subject. In this regard it is strongly felt that a sound understanding of the physiologic reasons for essential nutrient factors, their natural sources, the methods of their use by the body, and the consequences of their inadequacy is of far more importance than committing to memory daily dietary requirements, the structural formulae of vitamins, and other similar numerical data which experience has shown to be changed from time to time and to have but limited practical application.

Bear in mind that we are confronted with the problem of providing students with a practical approach to assisting the family in the hills of Kentucky, on the plains of Nebraska, and the streets of New York in making the most of what they have readily available. It is well that the student learn to face squarely the environmental limitations of each person, each family, each community, and each nation with which they might deal. One of the most common recent American errors has been the attempt to force people and circumstances to fit artificial or scientific standards. The danger of falling into that attractive trap is particularly great in the field of nutrition where there exist so few obvious manifestations on which to base action.

A study of the many underlying reasons for dietary inadequacy, is, therefore, essential. Attention should be given to dietary customs, superstitions, fads and fallacies, and a study made of factors such as economics, climate, soil, and geography which may influence the food supply and nutrition of people. Special consideration should be given to phases of life which present unusual or unique nutritional demands or problems. Here, the periods of pregnancy, infancy, illness, and old age are worthy of particular note.

Finally, and serving as the focal point of all the foregoing, there should be provided ample time for discussion of the place that nutrition activities do and might occupy in the total general public health program. The organization and content of existing programs should be reviewed and suggestions for more effective programs elicited. The functions and use of state or regional nutrition specialists should be presented, placing particular stress upon their positions as educational expeditors, field consultants and inservice-trainers for the rest of the public health staff in the area. Specific attention should be given to school and industrial lunch programs as educational as well as feeding enterprises, which reach back into the home. Perhaps of greatest educational impact would be informal discussions of the potential contributions of each member of the class and of each professional group to the public health nutrition program. In attempting to do so, the case history approach may be used to considerable advantage.

The appeal of a course such as this is best indicated first by the types of students who elect to take it, and second by their response to the material presented, measured roughly in terms of sustained interest and participation. It has been interesting to observe the increasing attention which all types of public health students have been giving to the subject of nutrition. During the 3 academic years, 1945–1948, at the University of Michigan School of Public Health for example, the courses in public health nutrition have been elected by a total of 214 individuals, only 9 of whom were specialists in the field. The

heterogeneity of the remainder is worthy of mention. The course was taken by 153, or about 100 per cent of the public health nurses, 23 or about 50 per cent of the health educators, 19 or about 40 per cent of the health officers, 7 or about 20 per cent of the specialists in environmental health, 2 public health laboratory workers, and 1 statistician. In addition, and from other schools of the university, there were 102 or 100 per cent of the dental hygienists, 61 or about 95 per cent of the graduate dentists, 14 physical education students, 8 graduate students in education, and 2 students specializing in speech. A definite and significant impression has been received that each of these students completed the course with a feeling that there was something that he or she could contribute in an attempt to improve the nutrition of the public.

It is not considered desirable to attempt to make nutrition specialists out of these people. Rather, the intention is to provide each of them with a broad understanding of the relation of food to total health and social welfare. This, it is hoped, will serve not only as a framework upon which they may add new developments in the science of nutrition, but also as a basis for applying that knowledge to the solution of the feeding problems of human communities. The degree to which this is accomplished will influence the service of public health agencies to mankind.

Y.M.C.A. Local Health Units Resolution

The National Physical Education Committee of the Y.M.C.A. at its quarterly meeting in January adopted the following resolution submitted by the Committee on National Relationships:

Be it resolved that the National Physical Education Committee in its formal and informal relationships with area councils, state committees, and local Associations, use its good offices and official connections to encourage local Associations to participate actively in local community health councils or other organized bodies interested in promoting the general health of the community. Further, if no health council or similar organization exists in a community where the Y.M.C.A. is operating, that the Association initiate steps which would make for the formation of community health council.

And, the National Physical Education Committee recommends that all area councils and state Y.M.C.A. committees become acquainted with the work of state health councils and affiliate if desirable with such state health agencies so that Y.M.C.A.'s of the state or area may be benefited by being able to avail themselves of the resources of literature, exhibits, films, and personnel of the state health agencies, and likewise, give such help as they can as official representatives of the Y.M.C.A.'s of the state in furthering the general health.

And further, be it resolved that in so far as practicable, the Senior Secretary for Physical Education of the National Board, Y.M.C.A.'s, will advise and assist area and state Y.M.C.A. committees in organization efforts, in developing continuing program ideas and in providing such printed material as can be secured without cost from public and private health organizations,

And finally, be it resolved that the National Physical Education Committee encourage careful study and coöperate efforts by area and state Committees and local Associations in the development of effective "local health units" as currently proposed by the National Health Council and its National Advisory Committee on Local Health Units; such units to make possible a higher level and more even provision of health education and health services throughout the country.

Training Physicians in Public Health Nutrition*†

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TRAINING physicians for work in the field of public health nutrition is a problem of current importance because, of all the environmental factors affecting health in present-day civilization in this country, none is more important than nutrition. The first half of this century has witnessed a great improvement in public health, due largely to the control of infectious disease. Tuberculosis, pneumonia, and dysentery, which were the leading causes of death in 1900, are no longer major public health problems. We know how to control these diseases; all that remains is a "mopping up procedure." It would seem that the professional health school which concentrates on sanitation and the control of communicable disease is simply resting on the laurels of the past. The health problems which confront us in the last half of the 20th century are the degenerative diseases, particularly cardiovascular-renal disease and cancer. Advances in this area will be aided by increased knowledge of cellular nutrition. A less clearly defined problem, but nevertheless an important one, is the overall improvement of well-being as evidenced by healthier children and a more productive life for adults. This problem includes the preventive aspects of illness, both physical and mental, and better nutrition will play an important part in its solution. Too many of the current leaders in medicine and public health still think that three meals a day which satisfy the appetite will provide adequate nutrition. Nothing could be farther from the truth.

Nutrition, or the science of food and its relation to health, is a comparatively new field. The daily diet with the economic problems relating to obtaining it, is an old and familiar one. The investigator in the laboratory with his knowledge of how to better nutrition, and the health worker with his knowledge of human needs have been far apart. If the information obtained by the investigator is to be applied by the health worker, this distance must be bridged. The investigator is primarily responsible for getting information, the health worker primarily for interpreting it. The distance between them can be decreased by bringing the results of investigation to the health worker by means of a thorough professional training.

It should be emphasized that there is a severe shortage of professional workers with special training in foods and nutrition. Few physicians, health officers, dentists, medical or health administra-

* Presented before the Food and Nutrition Section of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 9, 1948.

† This paper includes material from a report (Sept., 1946) of a committee appointed by the Dean of the Harvard Medical School to make recommendations on the teaching of nutrition to medical students and from a report (May, 1948) of a committee of the Nutrition Section of the National Health Assembly appointed for the purpose of making recommendations concerning the teaching of nutrition to medical, dental, and health personnel. The author was chairman of these two committees.

tors, nurses, or social workers have received much training in this field. This situation indicates the need for an evaluation of the academic requirements for personnel specialized in nutrition and of the important economic and social problems of salaries, working conditions, and professional prestige.

SPECIFIC TRAINING PROPOSALS

There is one general condition that applies in varying degree to all categories of professional workers, namely an adequate basic training. Nutrition, as a science, is a development largely of biochemisty which in turn is an outgrowth of chemistry and physiology. Therefore, all the professional workers in the field of nutrition should have some acquaintance with general chemistry, physiology, and biochemistry, the amount depending on what the professional worker is to do. Obviously, the investigator in the nutrition laboratory needs far more preparation in basic science than does the practising or public health physician, but a good principle is that no one will make a serious mistake by emphasizing training in the basic sciences. The facts of human nutrition have come mainly from two sources, the laboratory experiment and observations of the food practices and nutritional condition of individuals and of peoples. Since nutrition is an experimental science, it is important that professional workers should have an appreciation of the experimental method acquired through experience in the laboratory. On the other hand, there are aspects of nutrition which are treated by the social sciences and the physician who does not understand this interrelation will remain permanently handicapped in his effort to adjust food practices to nutritional needs.

Any discussion of training physicians for work in public health nutrition should really begin with a brief discussion of training physicians in nutrition. The following recommendations are general and should be modified according to individual circumstances.

Medical Undergraduates—

In medicine, as in public health, the applications of nutrition are so broad that training can be had best along two main lines: first, incorporating nutrition in many of the courses standard in present curricula; and second, adding special courses for those students who are particularly interested in nutrition, or some aspect of nutrition as a specialty. Integration of nutrition teaching in a professional school can be accomplished only if some individual, or a special committee, is made responsible for planning and implementing this teaching program.

Nutrition should be an essential component of the standard medical curriculum, but in general should be incorporated into standard courses. The following outline suggests how various aspects of nutrition can be fitted into the medical curriculum:

COURSES OF THE FIRST AND SECOND YEARS

Anatomy—The effects of exogenous and environmental stimuli, many of which are nutrients, on cell structure, growth, and function should be discussed.

Biochemistry—

A. General lectures in biochemistry dealing with protein, fat, carbohydrate, minerals, and water balance

B. Specific lectures dealing with nutrition as follows:

1. Historical—Present Concept of Nutrition
2. Vitamins A and D
3. Thiamine, Riboflavin, and Niacin
4. Folic Acid, Choline, and Ascorbic Acid
5. Other Vitamins and Growth Factors
6. Trace Minerals in Nutrition
7. Nutrition in Medicine

C. Laboratory work in experimental nutrition

Physiology—The physiology of digestion and metabolism should be thoroughly covered, with special attention to nutritional factors.

Bacteriology—Lectures covering the material suggested by the following titles:

1. Bacterial Nutrition
2. Bacterial Nutrition and Its Relation to Chemotherapy and to the Study of Nutritional Problems in Man

Pathology—The pathology of nutritional deficiencies should be thoroughly covered.

Physical Diagnosis or Second-Year Medicine—Periods covering material included in the following titles:

1. Symptoms and Signs that May Be Associated with Inadequate Nutrition
2. The Classical Nutritional Deficiencies

Laboratory Diagnosis—Laboratory methods in the diagnosis of nutritional deficiencies should be discussed.

Second-Year Pediatrics—Courses dealing with growth, development, and maturation should include the following:

1. Nutrition and the Physiology of the Newborn
2. Nutrition and the Progress of Growth
3. Nutrition and the Significance of Retarded Growth
4. Nutritional Requirements of Infants and Children and How These Requirements are Met by Food.

COURSES OF THE THIRD AND FOURTH YEARS

Third-Year Lectures in Medicine or Surgery—

1. Evaluation of Nutritional Status
2. Nutritional Problems in General Medicine
3. Conditioned Nutritional Deficiencies
4. Obesity and Malnutrition
5. Calcium and Phosphorous Metabolism
6. Nutrition in Convalescence
7. The Use and Abuse of Commercial Vitamin, Mineral, and Protein Preparations
8. Supplementary Feedings—Oral, Tube, and Parenteral

Third-Year Lectures in Pediatrics—Courses dealing with principles of infant and child feeding should include considerations of:

1. Acute and Chronic Deficiencies, e.g., Rickets, Scurvey, Tetany, Anemias, etc.
2. Interrelationships between Nutritional Deficiencies and Infectious Diseases in Failure of Growth and Development

Third-Year Lectures in Obstetrics: Lectures covering the material suggested by the following titles should be given:

1. Nutritional Requirements in Pregnancy and Lactation and the Importance of Breast Feeding
2. Nutrition and Its Relation to Complications of Pregnancy and the Health of the New-born

Third-Year Lectures in Preventive Medicine—Lectures covering the material suggested by the following titles:

1. Nutrition and Improved Health
2. Nutritional Studies of Population Groups
3. Nutrition and World Economics

APPLIED NUTRITION (DIETETICS)

As part of the outpatient or ward service in medicine, surgery, obstetrics, and pediatrics, sufficient time should be made available for each student to become thoroughly familiar with the principles of applied nutrition. Each student should be able to write dietary prescriptions which will provide for adequate nutrition, and to interpret them in terms of food. This can be taught best by a competent therapeutic dietitian working with groups of 6 to 8 students, and would require a minimum of three 2 hour periods. It makes no difference whether this is taught on the medical or surgical service. Applied nutrition in obstetrics and pediatrics should each be considered separately and would each require two 2 hour periods providing the students have already had the basic instruction in applied nutrition recommended for medicine and surgery, and if this is not the case, a third 2 hour period would be needed.

"Nutrition Rounds"—Once a week a member of the clinical staff in medicine, surgery, pediatrics, and obstetrics may see with the students on the service, patients who present unusual or common nutritional problems. The therapeutic dietitian should accompany the group on rounds and participate in the discussions.

The weekly clinical-pathologic conference and the weekly grand rounds held by most hospitals are valuable teaching aids. Discussions on various aspects of nutrition should be organized on appropriate occasions.

Socio-economic Factors in Nutrition—In any discussion of applied nutrition, the medical student, as well as other professional health personnel, must consider the socio-economic factors of obtaining the food necessary for any recommended diet. How does the patient get the money (or the food) for diets that are prescribed? The participation of the medical-social worker in case conferences will help both students and doctors to recognize and solve these important problems.

Physicians in Public Health Work—Some health personnel have the opportunity to attend a school of public health. This is a highly desirable procedure. Health personnel who do not attend a graduate school for training in public health must rely on undergraduate training as already mentioned, and on their own initiative to keep up to date with advances in nutrition that apply to public health.

Every health officer who holds, or hopes to hold an important administrative post in public health, and who attends a graduate school of public health, should have a course under a title such as "Public Health Nutrition." The same or a similar course is needed in the training of public health nurses and health educators. Such a course should consider the following subjects. These can be adequately covered in a series of twenty-four 1 hour lectures.

1. A brief review of fundamental principles of nutrition
2. Application of the science of nutrition to human nutrition
   a. Dietary requirements of growth, pregnancy, lactation, and adulthood and how they can be met by foods
   b. Diet in relation to dental structures
   c. Diet in the treatment of disease
3. Establishment of minimum and optional nutritional allowances
   a. Fulfilling allowances in terms of foods, especially with reference to low income levels
4. Methods for evaluating nutritional status
   a. Biochemical and physical examinations
   b. Nutritional histories; food intake studies
   c. Surveys of population groups
5. Nutritional deficiency diseases
6. Factors affecting food values: processing, cooking; enrichment and fortification
7. Factors affecting food habits: cultural, economic, psychological
8. Nutrition services as part of the public health program: national, state, community
   a. Organization and fields to be covered
      (1) The place of the nutritionist
      (2) Coördination of program with other community services and organizations
      (3) The school lunch; industrial feeding
9. Nutrition and world health
   a. Problems of the production and distribution of food
   b. Relief, rehabilitation famine, and other emergencies

In a school of public health the administrative and epidemiological aspects of public health nutrition might best be taught conjointly with the departments of administration and epidemiology. The important thing is to see that these approaches are not omitted.

Health officers who are interested in securing more information on nutrition than already suggested should participate in seminars, discussion groups, and journal clubs. Suggested topics for special seminars are the following:

1. The administrative organization of nutrition in the health department
2. Nutrition services in the health department
3. Recent nutrition research and its importance to public health problems
4. Social and cultural patterns and their importance in public health nutrition
5. International nutrition and the problem of food supplies and population trends.

SUMMARY

Nutrition is such a broad and important subject in health that all health personnel should have some awareness of the subject. This applies particularly to the physician in public health work. Professional training in nutrition is important and, depending upon

the profession, should include some or all of the following:

1. Basic and historical information on the science of nutrition, in perspective to the other sciences
2. Applications of nutrition to medical and health problems
3. An account of recent research in nutrition as it applies to public health with some evaluation of present and future problems
4. The economic, social, and psychologic aspects of nutrition

Professional training in nutrition should be given by each of the following general procedures:

1. Instruction in nutrition should be given in each of the years of professional schooling.
2. Most of this instruction should be incorporated in standard courses of the curriculum.
3. Special courses in public health nutrition should be given in schools of public health.

CONCLUSION

In conclusion, may I repeat the opening sentence of this paper—"Training physicians for work in the field of public health nutrition is a problem of current importance, because of all the environmental factors affecting health in present-day civilization in this country, none is more important than nutrition."

Foreign Teaching Opportunities Under U. S. Fulbright Act

The U. S. Department of State has announced an opening under the Fulbright program for a visiting professor in public health at the Medical College, University of Rangoon, Burma, for one academic year beginning in June, 1949. According to the announcement, persons interested in the opening should have had extensive experience in public health activities in rural and warm-climate areas, should have an M.D. degree, and should possess the personal qualifications necessary for advising on large scale problems. The award will be made in Burmese currency and includes stipend, a maintenance allowance, round-trip transportation, and an allowance for books or equipment necessary to the teaching assignment. Requests for further information should be addressed to the Conference Board of Associated Research Councils, Committee on International Exchange of Persons, 2101 Constitution Avenue, Washington 25, D. C.

The Fulbright Act (Public Law No. 584, 79th Congress, Second Session) authorizes the U. S. Secretary of State to set aside a portion of the foreign currencies resulting from the sale of surplus property abroad for educational exchange programs with certain foreign governments. It is understood that the Fulbright program is still in its initial stages and that policy decisions are in the process of formulation. Stipends, however, are expected to bear a reasonable relation to the grantee's salary and in addition, allowances may be provided for housing and cost of living. Transportation for grantees from and to the United States may be provided in addition to the total award when the foreign currency is acceptable to the carriers. Transportation inside the United States will not be provided.

Public Health Engineering in Foreign Areas with American Industry*

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THE revolutionary changes in the peacetime foreign policy of the United States that have taken place during the past 3 years are apparent to all. Military and temporary economic rehabilitation aspects however have tended to distract attention from long-range economic factors, including the expanding role of American production in foreign areas. This expansion results from two fundamental conditions.

The first might be termed the strategic materials situation. One phase of this is the ever growing list of materials, especially minerals, which are vital both to our increasingly complex industrial civilization and to national defense. In terms of national defense alone, at least 70 strategic materials either are not present in the United States or are rare. They may be exemplified by radioactive minerals. The other phase is the growing scarcity of our resources of ores and petroleum. In some cases this is relative—arising primarily from increasing demand; in others it is absolute—due to the actual or impending exhaustion of all but low grade deposits. Our present economy requires natural resources that are not only abundant but relatively inexpensive to process. The depletion of American iron ores, for example, may warrant main reliance on high grade foreign sources in preference to domestic low grade deposits, as is the present case with bauxite.

The second fundamental condition is related to the decline of the British Empire in world affairs and to a closer working relationship between the United States and Britain. The extensiveness of British interests and, to a lesser extent, those of the Netherlands, Belgium, and France in the rich raw materials areas of the world, particularly in the eastern hemisphere, is only dimly realized by most Americans.

The vacuum created in these areas by European weaknesses is not confined to questions of political and military strategy but extends into the economic domain. The world economy is so interrelated that American industry and American enterprise must fill this breach if world recovery is to be realized and the well-being of this country maintained.

The mere engagement of American companies in agricultural or industrial source production outside of this country and its possessions of course is not a new phenomenon. The United Fruit Company for one offers notable example of long established activity in this direction. What is significant is the changing status from the exceptional to the commonplace, the great increase in scale and the necessity for locating many developments in the more disease-ridden parts of the world.

These factors are exemplified by the

* Presented at a Joint Session of the Inter-American Association of Sanitary Engineering and the Engineering Section of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 10, 1948.

TABLE 1

United States Companies Engaged in Foreign Petroleum Development and Production *

1. American Independent Oil Co.
2. Arabian American Oil Co.
3. Asiatic Petroleum Corp.
4. Atlantic Refining Co.
5. Barber Asphalt Corp.
6. California Texas Oil Co.
7. Cities Service Co.
8. Continental Oil Co.
9. Creole Petroleum Corp.
10. Gulf Oil Corp.
11. Phillips Petroleum Co.
12. Pure Oil Co.
13. Richmond Petroleum Co.
14. Sinclair Oil Corp.
15. Socony-Vacuum Co.
16. Standard Oil Co. of Calif.
17. Standard Oil Co. of N. J.
18. Standard Oil Co. of Ohio
19. Standard-Vacuum Oil Co.
20. Sun Oil Co.
21. Texas Co.
22. Tide Water Associated Oil Co.
23. Union Oil Co. of Calif.

* Directly or through subsidiaries and affiliates
Principal Source: American Petroleum Institute

TABLE 2

Foreign Producing Countries in Which American Petroleum Interests Are Operating

Middle East

1. Bahrein
2. Egypt
3. Iraq
4. Kuwait
5. Qatar
6. Saudi Arabia

South America

7. Venezuela
8. Peru
9. Colombia
10. The Argentine
11. Trinidad

Europe

12. The Netherlands
13. Hungary *
14. Rumania *

Far East

15. Java
16. Sumatra
17. New Guinea
18. British North Borneo
19. Straits Settlements

North America

20. Canada
21. Mexico
22. Cuba

* Expropriated

American oil industry which may be considered as a forerunner in the current epoch of foreign expansion. According to available data, 23 principal American oil companies are engaged in petroleum development and production in 22 foreign countries. These companies are listed by name in Table 1. The countries involved are given in Table 2. This list would be much longer if it included non-producing areas in which American oil exploration is under way, some of which may be rich fields in the future. In still other countries American oil companies have purchasing agreements with foreign companies, or are involved in joint pipe line or refining ventures.

The volume of production and size of oil company populations in the countries listed cover a wide range. The great oil producing area of the future is, of course, the Middle East; provided the foreign policies of the United States and other countries permit. One American company alone has budgeted $1,300,000,000 for expansion in this area. Current and developing production from this region not only serves as a foundation for European recovery, but indirectly provides gasoline and oil for American automobiles, homes and industries. From the world's leading exporter of oil, the United States has shifted to a position of net importation. Oil from Venezuela that formerly went to Europe is now being increasingly diverted here as rapidly as expansion of Middle East exportation to Europe permits. Venezuela ranks second among foreign countries in proven resources. American oil producers have been long

established there and production is still expanding.

Our major expansion in foreign oil enterprises and potentially in other areas of production poses problems in which the public health profession and industry have important joint responsibilities.

In the field of public health these rest most directly on public health engineering and tropical medical groups, related to climatic and geographic location, and character of disease problems.

Unlike the relatively dispersed or marginal problems of environmental disease incidence encountered in the United States today, the prevention and reduction of the principal endemic and epidemic diseases in these areas are dominantly responsive to sanitation measures. Their medical epidemiology and clinical treatment are within the scope of tropical medicine.

As regards sanitation, there is reassuring evidence that American oil industry at least is aware of the problem. One manifestation has been its interest in recruiting public health engineers for resident foreign service and in obtaining advice on sanitation matters. While such foreign employment will always be minor in magnitude by comparison with public health engineering positions in this country, the medical department of one subsidiary operating company in Venezuela has a staff of 8 public health engineers. Another manifestation is the willingness to make heavy investment in the planning, construction, and operation of permanent modern facilities for living comfort and health, including sanitary utilities, housing and recreational facilities. American experience during the past war, which demonstrated the effectiveness with which sanitary safeguards can be applied to protect imported personnel from local disease in isolated parts of the world, has helped to make American management in foreign areas intolerant of the more complacent attitudes of their European associates and competitors. Experience in military service and the high sanitary standards in this country by comparison with those of other nations lead the American worker in foreign areas to insist upon adequate health protection.

While there is willingness in principle on the part of management to adopt optimum programs of sanitation, some weaknesses in execution exist; correction of which requires joint action by industry, public health, and schools for professional training.

First, there is a dearth of available and suitable personnel for sanitation services and other related activities. A basic cause is the lack of a career tradition of foreign service in this country, which is most acutely evident to those familiar with the functioning of the British Empire and British private enterprise in foreign lands. Since the days of Horace Greeley and the winning of the West, Americans have largely reverted to a status of geographical insularism in an occupational sense. When we do reside in foreign lands, we are too often patronizing, and insular in viewpoint and environment. This general situation perhaps offers the greatest single threat to the successful fulfillment of American foreign needs in all quarters. Such insularity is especially misplaced for American public health engineers and other sanitarians, medical and non-medical, in view of the pioneering opportunities and needs in foreign areas in this field.

In a previous article [1] it was suggested that professional malaria control workers in the United States might well seek employment in other lands or change or broaden their specialty. The need for such choice does not exist among those otherwise engaged in environmental sanitation here, but foreign service is suggested either as a permanent career, or less permanently to accelerate the gaining of a professional maturity and competency in the practice

of public health engineering in this country. The attractive salaries offered for many foreign service assignments also should not be ignored. Parenthetically, it might be noted that the scarcity of American public health engineers in pioneering foreign service was so great before the war that the general practice of tropical sanitation in some countries is still viewed as a field restricted to the medical officer and occasionally the entomologist. This reflects not merely past lack of opportunity for public health engineering employment in foreign areas, but, by comparison with medical and other biological scientists, a lack of zeal for field service under unattractive living conditions and often with little financial compensation. It is hoped that this attitude will not continue under the changed conditions of today.

The second basic factor pertains to qualification for the position. Consideration of this requires an understanding of programs and problems. The administrative pattern of sanitation programs varies with different companies and may be subdivided into two main categories: (a) division of responsibility and functions between the engineering or public works department, and the medical department, and (b) sole responsibility by the engineering department except for medical advice. Which pattern is adopted depends in part on whether sanitation is carried on only in company areas or whether outside national populations are also being served. In either case, the sanitation program is characteristically operational, involving the direct management and execution of sanitation measures.

In the second place, the major activities of the sanitary organization are more varied and comprehensive than in this country. To mention only a few fields of sanitation, the fly, the mosquito, or both, almost without exception constitute major problems of disease incidence, or at least hazard, in tropical oil installations. Other arthropods and rodents commonly are important as well. Food problems become far more difficult and complex where temperatures are high and native food handlers are employed. At the same time, resourcefulness in the management and operation of water supply and sewerage systems is made necessary by unusual technical problems, remoteness from source of supplies and equipment, and an unreliable labor force. Extensive investigational services to define the problem and basic developmental research preceding control are required.

In one Middle Eastern installation for example, direct sanitary operations on company property encompass water supply, sewerage, solid wastes, housing and ventilation, swimming pools, bathing places, control of flies, rats, mice, and roaches. I repeat, these are operational, not technical supervisory, responsibilities. Supervisory functions include industrial messes served by East Indian food handlers, ice and bottling plants, a bakery, and occupational sanitation. Fly production is far too great for effective suppression by DDT residual house spraying alone, and is responsible for a high incidence of dysentery and gastroenteritis via food, and of trachoma. The bionomics of desert flies differ greatly from those in this country and knowledge of their habits is scanty. Sources of food supply include native meats and sometimes native vegetables from night soil gardens. The present temporary water supply is turbid surface water, chlorinated but unfiltered, obtained from a watershed where bacillary and amebic dysentery and schistosomiasis are highly prevalent. The importation of plague-infected fleas and rats and of cholera-laden flies by ship and aircraft from relatively nearby endemic sources must be constantly guarded against. An adjoining area has hyper-endemic malaria and local plans for irrigation may

introduce a pressing hazard of importation and establishment of anopheline and other mosquito species.

The installation is remote and the sanitary organization must be a self-contained task force prepared to cope with all problems promptly and effectively. The engineering director and staff must possess a high order of managerial and scientific abilities spread over a wide range of sanitation fields, and aptitude for training local personnel.

At the present time, the principal avenues of employment for sanitary or public health engineers in this country are in operational assignments with municipal departments other than the health department, or on other types of assignments with health agencies. The non-health department engineer usually possesses operating experience, but this seldom extends beyond water, sewerage, and solid wastes, and is more commonly confined to only one of these. The engineer with the health department generally has a greater breadth of experience in terms of fields of sanitation, but this is apt to be limited to non-managerial aspects.

In view of the above, it is apparent that industrial employers are under substantial handicaps in selecting proper personnel. The importance of selecting the right personnel cannot be overstressed, because of the responsibilities at stake. In addition to the basic value of preventing death and illness per se, the economic case for top notch operations in sanitary services is strong. During the war it was demonstrated in tropical areas that heavy expenditures for such measures were quickly paid for by the mere cancellation of ambitious plans for enlarged hospital facilities and staffs occasioned by abnormal illness rates. In the Middle East the reputed cost of bringing a single oil worker from the states and returning him is $3,000. While greatest reduction in personnel turnover can be realized by eliminating preventable disease, it can be reduced further by providing a clean, comfortable environment obtained by prosecuting additional sanitation measures not required for the actual reduction of disease.

Another significant reason for obtaining sanitation personnel competent to do the job lies in the need to sell management on the benefits of an effective sanitation program. Oil industry executives are trained in oil production, not public health engineering. Appreciation of sanitation needs tends to be sympathetic but exoteric and qualitative, whereas appreciation of need for geologists for example, is precise and quantitative. (Of course, we public health workers in their positions would need to acquire an appreciation of geological requirements.) A successful demonstration, efficiently conducted and effective in results, is the best answer to such situations.

There is no easy solution to this personnel situation. On the part of industry two steps are indicated. First, it should seek public health engineering counsel in this country in making personnel selections. Such inquiries should extend beyond writing the usual references supplied by the applicant and should be made of impartial advisers with broad vision and a practical understanding of tropical sanitation problems and programs. That is, hand-picked recruitment is called for.

Second, there is evident need for the oil industry and others operating in tropical areas to underwrite on a modest scale facilities in this country for training and research in tropical sanitation, i.e., the tropical practice of public health engineering. Such action would seem to be more within the province of an industry-wide association, such as the American Petroleum Institute, than of the individual company. The National Sanitation Foundation, as jointly established by the food industry and the

University of Michigan School of Public Health for progress in the field of food sanitation in this country, is an excellent example of this type of enterprise.

In addition to serving as a center for technical information, field research, and consultation, this Tropical Sanitation Foundation would provide special, select postgraduate training in tropical sanitation to engineers, entomologists, veterinarians, and other professional sanitarians; thus paralleling existing facilities in tropical medical training. Such training would be primarily concerned with filling special gaps in the professional knowledge of persons preselected for foreign assignment and already possessing basic professional training and proven ability in field operations and management. For the engineer in particular, it would attempt to bridge the gaps between: (1) the sanitary engineer in municipal management, (2) health department engineering, and (3) tropical sanitation.

The author is well aware that some graduate professional schools in this country, including his own and its affiliate, the School of Tropical Medicine in Puerto Rico, offer courses in tropical sanitation adjunctive to other engineering and medical training. He is equally aware that such training cannot satisfy the need described until it becomes a distinct entity, adequately financed and staffed with faculty members dedicated to this single task and possessing an understanding of the psychologic and philosophic, as well as technologic, differences between tropical and domestic sanitation, and between operations as compared with so-called technical supervision. Although the training would be primarily engineering in character, special consideration would be given to the sanitary entomologist, and to the engineering-entomologist-biologist team concept in the control of animate non-human vectors of disease. This training would be equally apropos for such individuals employed in tropical service by government.

On the part of the public health profession there is needed first a developing tradition and interest in foreign career service, as discussed previously. Beyond and allied to this is needed a sense of national responsibility and of obligation for service in a field of activity which underpins success in a vital national interest. Third, there is needed a better understanding of the nature of the work and a desire on the part of those interested in foreign service to prepare themselves for the effective professional practice of tropical sanitation.

In its inter-American aspects, the picture cannot be considered complete without mentioning the constructive value of the Pan American Sanitary Bureau, the Inter-American Association of Sanitary Engineering, and the Institute of Inter-American Affairs in advancing the general cause of tropical sanitation. The Institute has direct relationships to the problems discussed in this article. It has provided invaluable field experience to public health engineers who subsequently have been employed by industry, and has strengthened governmental sanitation services in tropical areas. The programs of all three organizations might well benefit from the activities of a tropical sanitation foundation dedicated to training and research in all applications of tropical sanitation.

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Interstate Reciprocity for Approved Laboratories*

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PUBLIC acceptance of premarital examinations, both physical and laboratory, has been truly amazing. Many of us can remember the time when the only difficulty in getting married was to obtain the consent of the girl in question or possibly find the fee for the license and minister. Today the steps to the altar, although following the pattern of the past, are a little more tortuous. By public demand, 36 states now require a physical examination, including a blood test for syphilis as a prerequisite for the marriage certificate; 2 other states require the male applicant alone to be examined; 10 states have no prenuptial examination requirements. It may confidently be expected that the coming generation will find all states demanding evidence of freedom from infection before a marriage certificate is issued. Getting married now is a serious proposition, which is as it should be.

The first attempt to inject a public health aspect in regard to marriage was made by the State of Washington in 1909; it was short lived, as the law

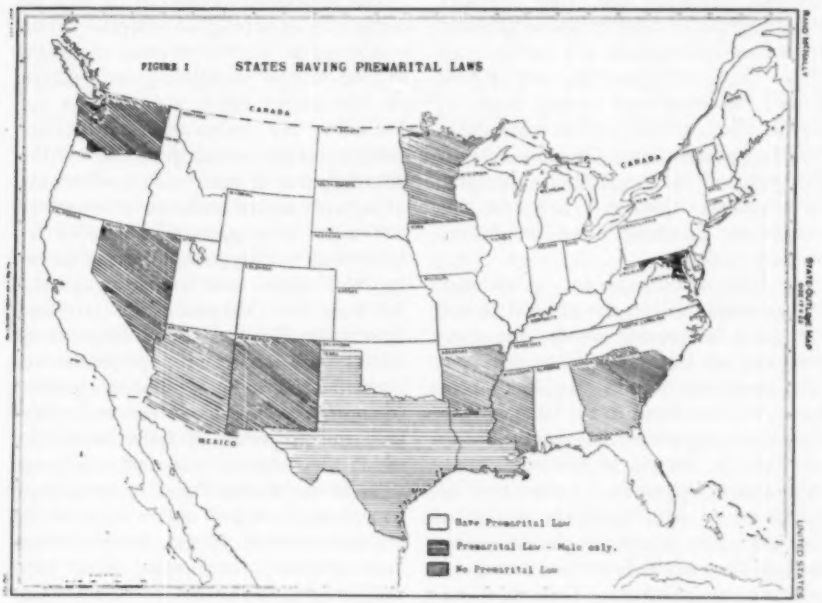


FIGURE 1 STATES HAVING PREMARITAL LAWS

* Presented at the Annual Meeting of the Western Branch American Public Health Association in Salt Lake City, Utah, May 27, 1948.

was repealed in 1910. In 1913 the States of North Dakota, Oregon, and Wisconsin passed premarital laws applicable to male partners only. Alabama in 1919, North Carolina and Wyoming in 1921, Louisiana in 1924, and Texas in 1929 also approved premarital legislation. In no state, however, was a laboratory test required. The first acceptable law from the public health viewpoint was that adopted by Connecticut in 1935, which required both applicants for the marriage license to submit to blood tests for syphilis. In addition, a penalty was imposed upon any clerk who issued a license without a statement by a licensed physician certifying to freedom from syphilis both by examination and laboratory test. With the exception of Louisiana and Texas, all states having premarital laws now require both applicants to submit to blood tests for syphilis, and the certification by a regularly licensed physician that they are free from syphilis or communicable syphilis. Infectious tuberculosis is a bar to marriage in North Carolina and Rhode Island. Epilepsy and several forms of mental ailments will prevent marriage in North Carolina and Oregon. Oregon has gone all out, eugenically speaking, by refusing certificates if drug addiction or chronic alcoholism can be demonstrated.

If both applicants for a marriage license reside within the same state and intend to be married within that state, then the laboratory procedure is simple. The physician obtains the blood specimens, submits them to the laboratory of the state department of health, or to any of its branch laboratories, or to laboratories approved by the state department of health. Upon receipt of the laboratory report the physician then makes the required certification as to absence of infection. The applicants then proceed with the physician's certificate to the office of the county clerk or other officer designated by law to issue marriage licenses, and when the waiting period (if any) has been complied with, the licenses are then issued.

Should, however, either or both of the applicants reside in a state other than the one in which the marriage ceremony is to take place, the procedure becomes somewhat more complicated. If the premarital laboratory tests are made in their own states, the reports may be unacceptable. Even if acceptable, their home physician certifying them may not be licensed to practice in the state in which the marriage is to take place. Then again, assuming reports from the home laboratory and certification by the physician acceptable, the forms on which the reports and certification are made may be unacceptable. The lack of uniformity in requirements for out-of-state premarital applicants is striking, utterly confusing, and to the persons concerned, a violent headache.

The confusion caused by a lack of reciprocity in premarital laboratory tests performed in other states was discussed by Forster and Shaughnessy in 1942, in an informative article published in the *Journal of the American Medical Association*. They concluded that: "the establishment of reasonably uniform requirements and procedures for interstate marriages is a goal which should be reached as quickly as legal and administrative barriers can be surmounted." At the 1946 Conference of State and Provincial Public Health Laboratory Directors a report was presented on Serological Tests for Syphilis by the Subcommittee of the Committee on Evaluation and Approval of Laboratories, in which the question of acceptance of results from out-of-state laboratories was gone into in detail and a number of recommendations were made. Had these been adopted, they would have gone far to bring order out of chaos. The committee recognized "that premarital laws have considerable merit, and also feels that unless some of these problems

can be handled with less inconvenience to the public than has occurred in the past, that such laws may be jeopardized in some states."

The comparative rapidity with which states adopted premarital legislation indicates a recognition of its value in social prophylaxis. The discovery of new or latent cases of syphilitic infection, frequently unknown to exist to the victims themselves, is a matter of record in all states requiring premarital serologic tests for syphilis. Table 1 shows the number of positive, doubtful, and negative serologic findings among marriage applicants in Oregon in the past five years. These figures are on specimens examined in the State Hygienic Laboratory alone:

TABLE 1

Results of Premarital Serology Tests 1943–1947

	1943		1944		1945		1946		1947	
	No.	%	No.	%	No.	%	No.	%	No.	%
Positive	13	0.68	25	1.06	37	0.97	60	0.98	80	1.09
Doubtful	5	0.36	19	0.81	25	0.66	42	0.69	64	0.88
Negative	1,892	98.96	2,307	98.13	3,747	98.37	5,992	98.33	7,142	98.03
Total	1,910	100.00	2,351	100.00	3,809	100.00	6,094	100.00	7,286	100.00

The precentages are approximate, since some of the positive and doubtful results were obtained on repeat specimens. For the 5 year period 1943–1947, approximately 1 per cent of the applicants gave a positive serologic test for syphilis. These figures indicate the value of the premarital laboratory test in venereal disease control. Certainly nothing should be done to jeopardize or even to impede its continuance.

Without exception the reports of serologic tests for syphilis made in a state department of health laboratory are accepted by all other states. Some states also recognize branch laboratories of state health departments and laboratories operated by the Army, Navy, and the Public Health Service. Sending the blood specimens of an out-of-state marriage applicant to his own state laboratory, therefore, would seem to be the logical procedure. What is logical, however, may not always be most expedient. There are two classes of people who enter into the state of matrimony: those who are deliberate and those who are impetuous. Occasionally the most deliberate of deliberates will become the most impetuous, and a delay of a day or two in the marriage ceremony would seem to be the most tragic event in their lives.

To out-of-state marriage applicants, nevertheless, the question of time is particularly important, and rightfully so. Many legitimate reasons enter into the necessity of obtaining a marriage certificate in the shortest possible time. Specimens which are delayed in transit, hemolyzed or otherwise unsatisfactory, cause delay in the receipt of the laboratory report and thereby may upset a carefully planned schedule and ultimately even postpone the wedding ceremony. To prevent such occurrences and to make local laboratory facilities available, most state departments of health have approved laboratories for the performing of required tests for premarital applicants.

In the vast majority of states the responsibility of approval of laboratories has been left to the state department of health or to the state health officer. Frequently, as in our state, advisory boards have been set up to assist in formulating standards and in recommending approval. In Oregon approval is granted after satisfactory compliance with the following requirements:

a. Evidence of proper training and experience of personnel
b. Adequate facilities and equipment, as shown by inspection
c. Satisfactory performance of serologic tests for syphilis and smear examination for gonococci on at least 50 blood specimens and 10 smears sent by the State Hygienic Laboratory

With minor modifications (and they usually are concerned with the number of specimens examined) these are the requirements set up by the various state departments of health in approval of laboratories within their own states.

A questionnaire was sent to each state asking, among other things, whether it would desire to enter into a reciprocity agreement with Oregon in the acceptance of reports from approved laboratories, assuming that its standards were at least equal to those of Oregon. The following replies were received:

Would enter into reciprocity agreement	14
Would not enter into such agreement	21
Would accept reciprocity conditionally	1
No opinion	2

Eleven states* now accept out-of-state reports from laboratories approved by their respective departments of health. Several of these require certification of the report by the state health department. The Oregon State Board of Health has gone on record as desirous of accepting out-of-state reports from approved laboratories provided the standards of approval are at least equal to those of Oregon. We have had reciprocity with California for nearly a year and it has worked to the advantage of both states. At the present time we approve laboratories for a calendar year, the certificate expiring December 31. Laboratories failing to make the grade or new laboratories desiring approval, are examined in June, and if found satisfactory, are certified for the remaining six months. A list of approved laboratories is sent to all county clerks in the state; supplementary lists are sent whenever necessary.

One of the greatest deterrents to reciprocity has been the lack of a standard premarital certificate form that could be used by all states. My own state, Oregon, is probably the worst offender in the number and variety of forms necessary to be filled out by the physician and laboratory. They vary in size, shape, and content. If a standard premarital certificate could be evolved from the conglomeration of forms used by the various states, a long step forward would have been taken toward interstate reciprocity. The Subcommittee of the Committee on Evaluation and Approval of Laboratories recommended in 1946 that the Conference of State and Provincial Public Health Laboratory Directors approve a standard premarital certificate form. It is my hope that this Conference will continue to give this matter its serious study. Unquestionably legislative action would be required in some states before a standard certificate could be adopted. Uniformity has been attained in birth and death certificate forms; it can be attained in the marriage certificate form also.

Personally I have been a firm believer in a national marriage law. Eventually I think we will have one. But until that time comes we can at least adopt a standard procedure for the laboratory portion of the premarital requirements. A serologic test for syphilis, accurately performed, will usually give the same results in Oregon as in Maine, in Florida as in Michigan. That has been demonstrated by the evaluation studies of state laboratories conducted by the U. S. Public Health Service for the past ten years. The errors inherent in the various procedures are being gradually eliminated by refinement of technique.

* States accepting out-of-state approved laboratory reports: California, Colorado, Florida, Kansas, Louisiana, Missouri, North Carolina, Ohio, Rhode Island, Wisconsin, Wyoming. Nebraska would accept reports conditionally.

The use of cardiolipin antigen, now being checked on a nation-wide scale, may offer another step in the improvement of syphilis serology. Availability of better trained technicians will shortly be an assured fact. Performance of serologic tests for syphilis by numerous hospital and private laboratories has been shown by intrastate evaluation to be on a par with control state health department or author laboratories. For all these reasons, therefore, reports from laboratories approved by their own state health departments should be given the same recognition and status as those from the state laboratories themselves.

At the present time we have 52 laboratories in Oregon approved for the performance of premarital and prenatal serology tests for syphilis. These cover the entire state. Thirty of these laboratories made a total of 14,118 premarital tests in 1947. They thus contributed to the convenience of the persons concerned and to the enforcement of the state premarital law. We have found that many Oregonians go across to our neighboring state of Washington which has no premarital law, to escape the inconvenience of getting married in Oregon. Providing local laboratory facilities, therefore, is good business from all angles.

One objection to interstate reciprocity for approved laboratories which has been emphasized, but which is not insurmountable, is the reluctance or even the refusal of county clerks to accept out-of-state reports. It would seem that unless a state law specifically left this matter to the discretion of the license issuing authority, a refusal to accept an out-of-state report, certified as to its validity by the state department of health of the state in which the ceremony is to take place, would be null and void. The real problem of interstate reciprocity would be to arrive at some workable procedure to keep license issuing authorities informed of the names and addresses of all approved laboratories.

According to the subcommittee report already referred to, there were, in 1946, 2,184 approved laboratories in 27 states. The number of approved laboratories in any one state varied from 4 to 445. Unquestionably the number of approved laboratories will increase from year to year. In addition, a number of laboratories fail annually in evaluation tests and some approved laboratories go out of existence. Thus, two hundred laboratories changed status during 1946. It would require therefore, the full time of several clerks to tabulate information on approved laboratories and make out annual lists for distribution to all states.

The agency best suited as a national clearing house for approved laboratories is the U. S. Public Health Service. It already has the machinery for evaluation of laboratories in case evaluation by a central laboratory is desirable and feasible. It is scientific, disinterested, and has the confidence of all the states.

A standard laboratory form to be used by all approved laboratories can be devised which would give all the information required by the various states. The following information is suggested:

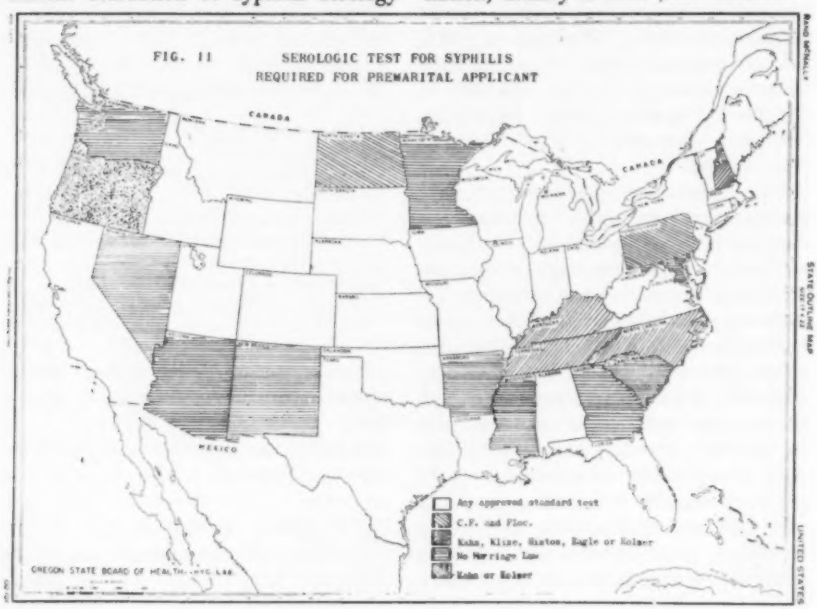
1. Date specimen collected
2. Date test made
3. Name, address, age, color, and sex of applicant
4. Name and address of physician
5. Results of serologic test or tests, giving name of test or tests made
6. Signature of director of laboratory
7. Certificate number or approval stamp indicative of its status as an approved laboratory

Several states issue rubber stamps which are used by their approved laboratories in identifying the reports as emanating from officially accepted laboratories. Alabama has issued a seal to its public health laboratories to be used for stamping certificates, and is contemplating the extension of its use to approved hospital and private labora-

tories. Other states, including our own, issue a certificate number to each laboratory; this number is indicated on the report. The use of a seal such as that devised by Alabama could be modified to meet the needs of each approved laboratory in any state by substituting the name of the state for Alabama, and inserting the certificate number given to each laboratory in the center of the seal. Each state could authorize the use of such seal by proper regulation, either loaning it to approved laboratories and maintaining ownership of it at all times, or else authorizing its purchase by the laboratory concerned. Each state would be responsible for the proper use of its seal. A standard laboratory report with the imprint of the seal could then be accepted nationally.

Figure II shows the kind of serologic test required by the various states.

The majority of states have wisely agreed that any standard serologic test for syphilis may be used on premarital blood specimens. Based upon use in the annual evaluation of syphilis serology tests conducted by the U.S. Public Health Service, the following may be accepted as standard tests: Eagle, Hinton, Kahn, Kline, Kolmer, Mazzini. A few states have their own modification of either the complement-fixation or flocculation test. Such modified tests could be made acceptable if their results in specificity and sensitivity fell within the required percentages for two annual evaluation series. North Dakota and Pennsylvania require both a complement-fixation and a flocculation test. The use of these two techniques in testing for evidence of syphilis was recommended by the Subcommittee of the Committee on Evaluation and Approval of Laboratories. Ohio requires a recheck if the first test is doubtful or positive. Many states make such rechecks a matter of routine. Oklahoma requires all positive and doubtful specimens to be checked by two different tests. Vermont permits any standard test; however, if the flocculation test is positive, a complement-fixation test must then be made. Laboratory examination, usually a smear, for absence of



gonorrhea is required in Illinois, and if indicated, in Kentucky, Louisiana (male only), and Oregon.

Space does not permit, nor does this paper warrant discussion of the relative merits of the various serologic tests for syphilis, or of the more controversial comparison of the flocculation and complement-fixation tests. Anyone interested can study the results of the annual evaluation tests or search elsewhere in the literature for comparative values. Suffice it to say, most states seemingly agree that any single standard test for syphilis, properly performed, is acceptable.

Another question which has given rise to some discussion is the number of specimens a laboratory should examine in the evaluation of its competence. Here a wide variety of practices may be noted. Some states require as few as 5 specimens, others as high as 200. Some states submit whole blood, others only serum specimens. In Oregon we send out annually 50 whole blood specimens, roughly 35 from syphilitic and 15 from normal donors. Sufficient blood is withdrawn from each donor so that every laboratory receives at least 5 ml. The subcommittee recommendation was to submit "not less than 75 blood specimens from presumed non-syphilitics and 75 blood specimens from syphilitics—the percentage sensitivity and specificity attained shall not be less than that required by the U.S.P.H.S. of state laboratories. . . ."

Frequency of inspection varies in the states from quarterly, semi-annually, and annually to every 3 years. In Oregon, inspection is made annually with a return visit if indicated.

SUMMARY AND CONCLUSIONS

Thirty-six states now have a premarital law requiring a physical examination and blood test for syphilis on both applicants; two states require a blood test, if necessary, on the male only. Laboratory reports from any state laboratory are accepted by all states. Any standard serological test for syphilis may be performed. Some states require reports to be made on their own forms; some will accept forms of other states. There is little uniformity in the forms of the various states.

Eleven states accept laboratory reports from out-of-state laboratories which have been approved by their own state department of health. More states would accept such reports if evaluation requirements were equivalent to their own. A standard syphilis serology report form for marriage applicants is highly desirable and would make the goal of interstate reciprocity easier of attainment. A seal to be issued to approved laboratories by their state department of health, which could, by substitution of the state name, be used in any state, is recommended.

Interstate reciprocity of premarital serological tests is particularly desirable among states which border upon each other's boundaries. California and Oregon already have such reciprocity. Washington, although not having a premarital law, does have a prenatal law which requires the performance of serologic tests for syphilis. Approval of laboratories by the Washington State Department of Health will be completed shortly and if their standards approximate those of Oregon, a reciprocal agreement will be entered into. Since, in the vast majority of states, the state department or state board of health is the agency responsible for the approval of laboratories, it would seem desirable that the Association of State and Territorial Health Officers initiate a study leading to the adoption of interstate reciprocity. The Conference of State and Provincial Public Health Laboratory Directors and the U. S. Public Health Service could be called upon to offer suggestions and recommendations.

I am not in agreement with a state laboratory director who replied to my

questionnaire: "Since the war is over I see no particular indication for expediting marriages." Love, like disease, knows no boundaries, and unlike disease we should not and cannot restrict it to the confines of any one state. The convenience of the public should always be considered. Forster and Shaughnessy hit the nail on the head when they stated: "Any public health measure should accomplish its objective with the least possible infringement on the normal activities of the citizens. Few of the prenuptial laws can be said to conform fully with this principle as far as interstate marriages are concerned." The attainment of interstate reciprocity in syphilis serology depends upon the interest and desire of those responsible for the administration of the premarital laws to carry it into effect. It can be done. It should be done.

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WHO Alexandria Regional Office

Early in February representatives of 200,000,000 people in some 20 countries met in Cairo to set up the WHO Regional Office for the Eastern Mediterranean. It was decided to open this regional office in Alexandria on the site of the Sanitary Bureau on July 1, 1949. Sir Aly T. Shousha, Pasha, Egypt's Undersecretary for Health and Chairman of WHO's Executive Board was unanimously elected Director. For the first six months' operation, $100,000 has been made available by WHO.

Among the chief public problems awaiting action in the Eastern Mediterranean are schistosomiasis which is said to affect 65 per cent of Egypt's and 80 per cent of Iraq's population; hookworm disease, and malaria. The last named, through undermining the energy of the worker, is one of the principal causes of low food production in potentially rich agricultural areas. Others are the 3 T's—tuberculosis, trachoma, and typhoid.

Certain preliminary work of this regional office began in March—advisory services to Pakistan for malaria control, to Pakistan and Egypt in tuberculosis and maternal and child health, to Egypt and Turkey for venereal diseases, and to Ethiopia for training programs in such basic fields as public health nursing and sanitation. Also more than 30 study fellowships have been granted to medical personnel from this area.

Use of the University in Increasing the Expertness of the Nurse*

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THE modern university is in a cogent and strategic position to offer leadership in the preparation of the professional worker for all fields of human endeavor. One of these very essential workers is the public health nurse.

The extensive facilities and personnel at the disposal of the university places a definite responsibility on it to assist in the preparation of the public health nurse, who must be especially well grounded, in the biological and social sciences and their application, to attempt to meet adequately the health problems and situations of today and tomorrow!

The very favorable position of the university for this purpose is enhanced when facilities are available within its campus for nursing education and public health as well as public health nursing education. However, whether this is a fact or not, it is imperative that the public health nursing faculty be deeply concerned with, and when feasible participate in, nursing education and curriculum construction and teaching on both the undergraduate and graduate level. This is a vital necessity if intelligent plans are to be formulated for advanced preparation of public health nurses.

The public health nursing curriculum has substance, only when it is built on a thorough knowledge of the content of basic nursing education as well as on the present and anticipated needs in the health field.

What then, are some of the vital present needs? One of the key positions today in schools of nursing is that of the faculty member responsible for integration of the social and health concepts of nursing. To date, too few universities have offered special preparation for this important work. Nevertheless, in many instances, with far greater enthusiasm than wisdom, public health workers have convinced schools of nursing of the necessity of having such personnel on the teaching staff. Too often, fine enthusiastic public health nurses are employed who are almost totally, if not entirely, unprepared for this type of arduous and exacting work. The inevitable result is confusion if not outright failure in the important program of integration of the social and health aspects of nursing throughout the basic curriculum. Added to this, is the disillusionment of all the personnel, the public health nurse, the general nursing faculty and the hospital personnel, as to the desirability of having a faculty and a curriculum which includes the incorporation of the social and health aspects of nursing. There are, of course, notable exceptions.

The National Organization for Public Health Nursing stands ready to give suggestions as to the recommended

* Presented before the Public Health Nursing Section of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 9, 1948.

qualifications for the person taking such a position. Consultant nursing assistance when needed is available through the above agency, the regional offices of the U. S. Public Health Service, and the nursing divisions of state health departments upon request. It should prove very helpful to schools of nursing seeking this type of personnel to have these services. Effort should be made to have them fully utilized. When it is known what the preparation needs to be, there is a more reasonable chance for the employment of a qualified person and for the success of the undertaking.

It follows certainly, that the university must provide assistance in the preparation of this type of personnel through both theory and practice. To do so takes imagination and experimentation. However, at least two types of assistance would appear feasible, a long-range program of study that will prepare the mature and experienced public health nurse in this specialty, and a short-range study plan to bring together those persons now attempting this work to offer opportunity to thrash out problems together, exchange ideas, and gain new insight, thereby materially implementing knowledge and it is hoped ability, to do the job better. Simultaneously, there would be provided invaluable data from actual experience that could be sifted, then incorporated into the curriculum of the longer program of study. The latter would be for the nurse who showed particular potentialities and interest in this area.

Exceedingly important also is the provision for continuous, meticulous exploration and evaluation of the preparation in public health nursing, including both theoretical and field preparation given by the university to the potential public health nurse, or the public health nurse with limited public health experience. Moreover, efforts need to be directed toward determining the extent to which this preparation has succeeded and to finding its shortcomings. In part, this educational endeavor may be measured by the degree of ability actually demonstrated on the job by the recently trained public health nurse, and by determining how extensively and intelligently an assigned job is handled. Of necessity, then, a continuous critical and searching analysis must be an integral part of curriculum planning. This is tremendously important if the education given by a university for this group is to be alive, meaningful, and constantly geared to current and anticipated needs in the public health field. The analysis should be a joint one; the university public health faculty, the faculty in other departments of the university participating in the program, the service agency leaders in the community, together with the recipient of public health nursing preparation, the staff nurse, must sit down at specific intervals and assay and equate the assets and liabilities of preparation as offered. This is equally essential whether the preparation is given as a part of the basic school of nursing program, as in some collegiate schools, or as a program of study after the completion of basic school of nursing education.

Such a group analysis should offer an excellent opportunity to bring into sharp focus those parts of the program needing further study and to suggest possible modification and strengthening. By this means, preparation not only is more meaningful, but also is more apt to be kept dynamic.

A full-time faculty member who acts as a field coördinator is of great assistance in this regard, especially when field placements encompass a large geographical area.

Routine field placements as such may then to a large extent be obviated, and more attention given to individual background, needs, interests, and personality. After thoughtful examination, all these factors may be carefully considered in

relation to the particular type of program and the general philosophy of the agencies used. The so-called routine first-level field experience then, not only correlates more nearly with theory, but becomes a far more vital and stimulating experience for both the student and the agency. The university can and should do much to prepare the student to take a major responsibility for implementing the depth and breadth of the field experience by her own thoughtfull approach and frank discussion of the experience. Much of value may result from a sincere attempt to evaluate performance as a professional worker, with full cognizance of the limitation imposed upon the situation by both lack of or limited previous experience of the learner and also by the type of learning opportunity at hand. The student's ability to accept and to use effectively this opportunity for self-direction in field experience will depend to a considerable degree upon the responsibility previously given the student in the university, under guidance, to build a program of study which permits discriminating but broad choice of electives in public health and related fields. The required courses or core curriculum should be limited to the irreducible minimum. Actually there is need for relatively few fundamental courses. This is not the hazardous assumption it might appear at first, but rather a sound one lending itself to materially strengthening on an intelligent, selective basis, individual program planning. It places primary responsibility for planning on the person most concerned, the learner, thus affording a rich opportunity to the prospective public health nurse, that it is hoped will encourage continuous self-education and self-analysis.

The above discussion presupposes that the agency and its field teachers are ready and willing for provocative questioning by the student. It is the university's definite responsibility to stimulate the field agencies' interest in this type of broad field experience by interpreting its creative aspects, and the anticipated greater expertness that should develop on the part of the learner. For through increased participation, assumption of more responsibility and greater self-stimulation, the prospective public health nurse, it is reasonable to expect, will be definitely assisted, in gaining expertness in the practice of public health nursing and in growth as a professional person that will make for distinctly increased effectiveness.

Another method that might be used in addition to the field conferences, by and with the field coördinator, to increase nurse expertness, would be to have workshops for field teachers. If such continuation study is deemed desirable, consideration should be given to two types of workshops — the "pseudo" workshop for the about-to-be field teacher, or those with very limited experience in this activity, and the "true" workshop where field teachers will bring their actual problems for study and discussion. In both instances, the assistance of many different experts from various fields such as business administration, education, and the like, usually will be readily available in the university for the asking, granted, that at times they must be smoked out. Such persons bring an invaluable fresh approach and materially aid, not only in enriching a period of intensive study, but they also lend definite assistance to the solving, on a broad basis, of some of the knotty problems presented.

One precaution appears warranted. To be assiduously avoided, is the tendency on the part of universities to repeat special intensive work on the same level, time and again. For example, what is invaluable on an elementary basis to the beginning field teacher, has little of value or stimula-

tion for the field teacher of several years experience. Greater expertness is needed by the workers in each group. Therefore, continuous critical analysis of such programs offered is vitally essential. Otherwise, sincere attempts on the part of the university to increase nursing expertness will be, at one point very meaningful, at another superfical and dull, defeating the immediate purpose and stifling future interest.

Through their own resources and by the importation of special consultant assistance, all universities are probably able to meet on a short-term basis in a reasonably satisfactory way practically any need in a specific area, and they should; however, there is also the crying necessity for universities to be ready to offer special preparation in specific areas on a long-term basis, through developing complete programs of study with correlated theory and practice.

Not all universities will be able to give rich opportunities in each of the areas of specialization equally well. Therefore, serious cognizance should be taken of this fact and each university should scrutinize its resources to determine those areas of specialization in public health where it feels it has unusually rich ones, either developed or that could be developed for advanced study, whether this study be in supervision, mental hygiene, administration, or some other phase of public health nursing work. Then the task should be to concentrate on development in this area or these areas. Such information should be given wide publicity and, of course, should be known to all universities concerned with the education of nurses so that students may be directed where they will receive the finest and most complete preparation possible. Another important reason for detailed information about such programs being readily available, is so that another university will not be starting a similar program when the need is being well and adequately met, but rather direct its energy to assay unmet needs in the health field. It is assumed that a thoughtful detailed study by the university, of course, will precede the establishment of any program, to determine if resources are rich and extensive enough either to be supplemented or developed for the special program of study needed by advanced public health nursing students. As this is done more widely, beginning and advanced preparation will be strengthened. To develop areas of special preparation adequately would seem to necessitate not only the planning mentioned above, but also the initiation of more extensive plans for internships. There is nothing new about this suggestion of internships. They have been urged by outstanding public health leaders for years, but in too few places are internships actually available so that theory and potential expertness may be put into operation under guidance over a sufficiently long period of time to enable some degree of significant practical expertness to mature. Long-term planned field practice is an essential ingredient of any advanced program of study in public health. Actually it is the very foundation on which final expertness rests, granting that always more knowledge and experience are needed to gain stature as an expert. Little can be developed of intrinsic worth without a strong foundation that has been painstakingly built.

Assistance from the university to the field agencies and vice versa in strengthening the preparation of public health nurses for various types of positions, such as that for the beginning worker and for the seasoned public health nurse interested in increasing general competence in the field of public health, or in some special aspect of it, should be continuous. For such preparation will be ever changing. Meanwhile, the

alert university will keep its finger on the pulse of community needs, as well as have the vision to see beyond, to national and international health needs and constantly envision and formulate concrete ways in which they may be met and then put these ideas into action as an integral part of the curriculum.

Furthermore, the university may well be utilized to assist with agency inservice education. There are various methods by which this may be accomplished, only two of which will be mentioned. One, university personnel may act on a consultant basis and assist thereby with the development, launching, and evaluation of inservice educational programs. Such a plan implies use in a limited geographical area to make it feasible. For example, the supervisors in a local agency might be concerned with the development and use of proficiency, efficiency, and evaluation reports, and might quite well turn to the university personnel for assistance over a period of time, perhaps a year, in studying ways and means of handling this very essential and delicate function of every public health nursing supervisor.

Another method might be to have university personnel actually give, individually or as a member of a team, special assistance in an institute or workshop type of conference for a group of public health nurses or a group of community workers. Included might be nurses from all nursing fields. Here the techniques of group dynamics might be utilized advantageously to stimulate discussion and to demonstrate an effective method of teaching. The specific content given could be planned to meet particular current public health problems. For example, the matter might be handled by a workshop centered around such a problem situation as, the use of the mental hygiene approach in the understanding and the handling of chronic illness by public health workers, nurses, doctors, and social workers. This type of conference would be concentrated over a short period of time. To plan and complete means for follow-up and evaluation of results *before* undertaking the project would be imperative. This is an exacting and tough task.

Too frequently in the past, and even today, a stereotyped pattern has been followed in organizing an institute or group conferences. They have entailed the giving of mammoth quantities of didactic material with little or no regard for group participation, or for scrutinizing results after a period of time by criteria determined before the conferences began. Granted, this latter may be difficult; the results disconcerting! Certainly if the assets do not outweigh the liabilities, they should be known and faced and the method discarded or revamped and revitalized.

It is readily seen that this discussion might go on for some time. Actually the extent of the university's usefulness in increasing nursing expertness is indeed limitless. In summary it might be said, provided personnel and facilities are available—and they are, within most universities—what is needed urgently is leadership, initiative, resourcefulness, and creative imagination to use what is there. Unfortunately this lack is, often, the only deterrent. Since they may prove provocative to others, mention will be made of those areas in which one university has found public health nurses constantly and repeatedly requesting assistance to increase their expertness. Of course, it is not too hazardous to guess that these requests are far from unique, but rather of the very common garden variety. They fall under the following general headings:

1. General overall program planning
2. Budget making and cost analysis
3. Coördination of functions of various health and welfare groups and the determina-

tion of the limits of responsibility of each
4. Effective use of community councils
5. Planning of special educational programs to increase scientific knowledge and to facilitate its use

An essential corellary to the foregoing comments might well be that the public health nursing faculty, to give leadership and guidance as indicated, must be well prepared for the job by actual academic preparation and wide and varied public health experience, and that each faculty member must constantly be broadening and deepening individual perspective while simultaneously gaining greater specific knowledge and adeptness in application. Therefore, there is a crying need for greater opportunity than may be gained in such a meeting as this for a university nursing faculty to sit down together, thoughtfully pooling and exchanging ideas and methods. Such work conferences would facilitate and stimulate continuous growth of the faculty which must be ever alert to ways of maintaining and improving nursing expertness. Moreover, it should be remembered that to develop nursing expertness there is unanimity of opinion that there must be opportunity to gain theoretical knowledge and opportunity for practice in its application. Both should be well coördinated and integrated.

To date, the opportunities for university faculty to be exchanged with agency personnel have been sporadic. Is this not something that should be explored, developed, and put into operation on a wider scale without delay? Then, the university as well as being in a strategic position to offer leadership, would actually tend to maintain a high degree of competence in operation. Then, the university would become a dynamic center of learning for health workers with the field agency as the laboratory—the testing ground. Functioning in this manner, the university could not but contribute markedly and continuously to increasing the expertness of the nurse.

Leslie Dana Medal to Dr. Post

The Leslie Dana Gold Medal for 1948, a national award given annually by the St. Louis Society for the Blind for outstanding achievement in the prevention of blindness and the conservation of vision was presented on March 25 to Lawrence T. Post, M.D., of St. Louis.

This award in the field of public health is given upon the recommendation of the Association for Research in Ophthalmology.

Dr. Post is Professor of Clinical Ophthalmology and head of the Department of Ophthalmology at Washington University Medical School. He is Ophthalmologist-in-Chief at Barnes Hospital, McMillan Hospital, St. Louis Children's Hospital, and the Washington University clinics.

A School Health Demonstration Based on Sound Public Health Practices*

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A PRESUMPTIVE title was chosen for this paper without conceit but with the firm conviction that much of the Kansas School Health Demonstration is basically sound, and that the policies involved are important in the development of a program which is practical and includes a majority of the factors affecting the health of school children.

A State Health Education Council was formed and numerous working committees were appointed in 1944.[1] The council studied school and community health problems and made specific recommendations for promoting and building stronger local school health programs. They observed that the health of the school child is affected by many events which occur outside of the school walls. They believed that a program directed only at children in school is narrow and not so likely to produce real results as a community health program. Their conclusion was that the best program was a community-wide generalized public health program with moderate emphasis on services to the child from the time of its conception until it is through school.

Certain excellent manuals[2] were compiled and edited by the State Health Education Council and published by the State Board of Health and the State Superintendent of Public Instruction.

Having developed concepts and manuals, the council wished to reduce the ideas to practice in the form of a 5 year school health demonstration. Cowley County, Kansas, was selected as one of the favorable places to conduct such a demonstration[3] and state and federal funds were made available to supplement local funds in carrying out the program.

Cowley County is essentially a rural county of 35,000 population, containing two towns: Arkansas City 13,000, and Winfield, 9,000. There are two junior colleges and one university in the county.

A budget of $35,000–$40,000 has been used and the staff was originally planned to include a health officer, a pediatrician (loaned from the State Health Department), a supervisory nurse, 8 public health nurses, a sanitary engineer, a sanitarian, 2 clerks, and a statistical clerk. At no time have all positions been filled. If we were embarking on this venture anew, we would certainly include a full-time health educator.

In this county of 35,000 population, prior to reorganization, 7 separate agencies employed 11 public health workers. The agencies included the county, each of two towns, two school boards and two public health nursing associations.

When this demonstration was proposed, we met with interested individuals and groups to discuss the proposal and to seek their active coöperation in car-

* Presented at a joint session of the American School Health Association and the Public Health Nursing, Public Health Education, Maternal and Child Health, and School Health Sections of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 11, 1948.

rying out a health program of the general type suggested.

This local organizational work was done rather rapidly and was completed in about 2 months. Various questions about such reorganization were raised by individuals and groups: that it was "socialized medicine"; that state and federal agencies would run it; that certain specialized jobs (bedside nursing) might not be done as well by the new organization; that personnel presently employed might not meet merit system requirements.

The argument relative to socialized medicine was met by three facts: the local medical society approved of the reorganization and its more extensive public health services; the Health Department efforts do not include treatment of diseases or defects, therefore, do not constitute practice of medicine by a governmental agency; the additional and more adequate health services to the people of the community would make them more, rather than less, satisfied with the total health service available to them, hence would tend to reduce demands for the socialization of medicine.

The question of outside control and the misgiving that specialized jobs might be neglected were answered by pointing to the local board of health which had the responsibility of developing the program in a way to meet the needs and demands of the community. Although we hoped that all groups would stay in for the whole 5 year period, an "escape clause" was included in the resolution so that one or more groups might withdraw on 6 months' notice. To date, no group has utilized this clause.

Existing personnel did not all meet merit system requirements. One individual took a special examination to qualify. Others became permanent employees after revision of a clause of the merit system to accept them as incumbents. If reorganization had included the necessity of discharging public employees of long service and considerable following, the reorganization would have been impossible.

By resolution, the 7 agencies combined their finances, personnel, and interests in the "Joint Health Department of Arkansas City, Winfield and Cowley County." The resolution established a Board of Health with a representative from each of the agencies involved and from the medical and dental societies.

As soon as reorganization became effective, extensive reorientation of the staff began. Nurses who had previously done only bedside services, school nursing, or inadequate county-wide services were brought into the Health Department and given the task of doing a generalized program within an assigned district. The duties of the Health Officer and the sanitarian expanded suddenly and explosively.

Continuing efforts have been made to inform the community of the aims, objectives, and work of the Health Department through newspapers, radio, community meetings, talks to civic clubs, observance of Public Health Nursing Week, and through the Board of Health and the daily contacts of the Health Department staff. A special effort consisted of a Health Education Workshop held in conjunction with the rural teachers' institute. A second workshop this fall included teachers from the two towns with the rural teachers and many community leaders. These efforts have materially increased the understanding of the community and of special groups. Needless to say, such efforts must be perpetuated and expanded.

We will now proceed to discuss the pattern that our generalized services have developed and needed alterations therein. Services have been designed to foster and encourage individual responsibility for health and to supplement and aid the practising physician rather than supplant him. Health Department serv-

ices are available to all people of the county, not merely to the indigent. We believe that the program gathers much strength and support from following these policies.

Expectant mothers and unborn children have had nursing service, but no prenatal clinics have been held. Good prenatal care is rendered by private physicians; provision is made for care of indigents and our objective is to get patients into the practising physicians' offices rather than into a prenatal clinic. Our prenatal services have been at low level but have gradually increased in amount. Mothers' classes are being started to serve this group.

A premature center is being developed in one of the local hospitals and our nurses are aiding a gradually increasing number of mothers and new-borns when they return home from the hospital. Home deliveries are rare but a nurse assists with them before, during, and after delivery.

At several centers in the county we have regular well child conferences for infants and preschool children. Through these conferences families are encouraged to seek regular health supervision from their family physician. Any infant or preschool child is eligible for these conferences if he is not already receiving medical supervision of a physician. In isolated areas, screened school children are examined in these conferences.

Health supervision of school children includes, if possible, a final preschool examination at the well child conference or by the family physician, or, if not possible, an examination soon after entrance. From then on examinations are done after screening by teacher and nurse. A summary of each child's preschool record is placed on his school record when he enters school. Children known to be entering school in the fall are sent a letter explaining the need for a health inventory including a dental examination. Blank record forms are enclosed. The suggestion is made that they get this service from the family physician, but the door is left open for their parents to make an appointment for conference at the Health Department.

When screening is done on children in school, such an option is offered again. A large proportion of these children go directly to the family physician. The nurse informs the family physician of the reasons for referral. Does this procedure have any advantages? We think so. It is highly acceptable to the local physicians; it requires less nurse and health officer time because there are fewer children and parents to be served at our conferences; the need for nurse follow-up is greatly reduced; less effort by parents is needed because only one visit is made in lieu of two; direct remedial action can be taken at this visit; it encourages individual responsibility. The defect of the plan lies in the difficulty of getting pertinent data from the physician for the school health record. This is solved in part by returned referral slips with notations on them. Direct referral of selected children to the family physician promises to be one of our most successful procedures.

Other services have evolved into a certain pattern. Immunizations are offered at conferences—every other year in the larger schools, in any elementary school where the immunization level for smallpox, diphtheria, or whooping cough has fallen below 75 per cent. Last year a truetone audiometer test and the Massachusetts vision test were done on all school children in the county, grades 1 through 12. In the coming school years we expect to use these devices to test grades 1, 3, 6, and 9, plus all new students and those screened as needing a test. Snellen test and observation are to be relied upon for children in other grades. The Snellen test will, we believe, find children who develop myopia rapidly; the more complicated vision test includes means to detect pathological

conditions which develop less rapidly, and hence may logically be done less frequently.

Dental inspection has customarily been done annually on all school children in the two major cities. Last year it was done for the first time on rural school children. Such inspection, while it has been of considerable value, violates the principle of encouraging individual responsibility for dental care, and, in fact, does not even teach children to visit their dentist once a year. It does teach them to wait for the inspection provided to find out whether they need to go to the dentist. We are seeking to alter this automatic inspection to a program designed to educate parents and children to seek annual dental inspection and care from their own dentist.

Sanitation work has been productive in several ways. Rural school sanitation has been improved under the guidance of the public health engineer. Milk sanitation has been much improved by generation of public support for proper sanitation and by adoption and enforcement for the first time of Standard Grade A Milk Ordinances in the two principal towns. City-wide DDT spraying was introduced in the two towns and is being incorporated with the city governments' other regular services to the public.

Teaching of health to children has been done in the schools, and the state and local school people have developed unit material toward this end. Teachers have integrated health teaching with other subjects and our staff correlates it with their services.

The remaining basic health services were organized and conducted in a fairly routine fashion. We must mention one undertaking which we regard as a major error in policy and planning.

We devised and utilized a mass technic in our overzealous efforts to render services efficiently to children in scattered and small rural schools. Centers were used and children from nearby schools were transported to one of them at a scheduled time. Once there, each child had, in rapid succession, a vision test, hearing test, dental inspection, and immunization. On certain days they also had a brief physical examination by a physician. Nurses and teachers were present but no parents. Follow-up reports were filled out later and mailed to the parents.

This method had two merits—it gave the examining physician an interesting cross-sectional view of the physical status of school children and it mechanically provided some services. Its shortcomings are almost too numerous to mention, but include: no opportunity to confer with parents and to observe familial characteristics in them; excessive disruption of other work; lag in nurse follow-up; bizarre reports carried home by the children; complete lack of real educational value. The public relations feature was poor in that services carried to each rural school do much to engender knowledge and support of the health department and its activities.

Services to preschool children have been satisfactorily active. Those rendered to elementary school children have been disproportionately numerous. As community understanding and planning progress, services should increasingly be directed toward the prenatal and neonatal groups. In addition, more services should be available in secondary schools and colleges.

SUMMARY

The Kansas School Health Demonstration was started after state-wide organization and planning and after reorganization of local services. It is based on the idea that the health of the school child can best be improved through a generalized well rounded public health program which places moderate emphasis on the health of the child from con-

ception onward, rather than one which confines itself to activities within the school. Increasingly, it has stressed the importance of individual responsibility in obtaining suitable health guidance, and has sought to educate the individual to recognize the importance of his health and stimulate him to seek it for himself and his family rather than to wait for government or charity to provide for his needs. Services are available to all, regardless of financial status. The program has been directed toward supplementing rather than supplanting the work of the practising physician and dentist. It is an attempt to demonstrate that a health department of reasonable size can, coöperatively with school systems and other local groups, develop and carry on the type of program described in a unified, effective manner.

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Cardiovascular Disease Control Committee

The National Advisory Heart Council of the National Institutes of Health has selected a subcommittee to assist in passing upon requests for grants to finance community control projects. Although no appropriations have yet been made by Congress (March, 1949), applications for research and construction grants aggregating many millions of dollars have been received by the Council.

The members of the subcommittee are:

F. C. Beelman, M.D., Director, Kansas Board of Health

Marjorie Bellows, Statistician, American Heart Association

William H. Bunn, M.D., Practising physician, Youngstown, Ohio

Charles A. R. Connor, M.D., Medical Director, American Heart Association

C. Mayhew Derryberry, Chief, Health Education and Training, U. S. Public Health Service

T. Duckett Jones, M.D., member of the Council and Medical Director, Helen Hay Whitney Foundation, Chairman

Ruth E. Lynch, Los Angeles County Tuberculosis and Health Association

H. M. Marvin, M.D., President-Elect, American Heart Association

C. Martin Mills, M.D., Health Officer, Richmond, Calif.

Mary B. Moss, Executive Secretary, American Association of Medical Social Workers

David D. Rutstein, M.D., Harvard Medical School

Marion Sheehan, University of California School of Nursing

Estella Ford Warner, M.D., Chief, States Relations Division, U. S. Public Health Service

Laboratory Handling of Radioisotopes in Cancer Research*

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IT is not facetious to say that the impact of the development of the atomic bomb has been felt as keenly as a contribution to the welfare of mankind, as in the programs for the development of weapons to destroy mankind. The chain-reacting uranium pile which can be used to manufacture plutonium, a basic component of an atomic bomb, can also be used for the manufacture of radioactive isotopes, which, as of June 30, 1948, were being used in 247 industrial and educational institutions for research and therapy. Actually, radioactive isotopes had been prepared for a number of the elements before the Atomic Energy Project. Through the use of high speed accelerators it was possible to bombard the atomic nuclei with particles traveling at a sufficiently high speed for them to penetrate the nucleus and render it radioactive. By this method several hundred radioisotopes had been prepared, but many only in microgram amounts. In the chain-reacting pile the enormous number of neutrons liberated by the fission of uranium penetrate the atomic nuclei and render the target atoms radioactive on the scale of milligrams, grams, and even kilograms of radioactive material.

You will recall that the atom consists of a nucleus which contains charged particles called protons and uncharged particles called neutrons. If a charged or an uncharged particle penetrates the nucleus it may disturb the normal balance between protons and neutrons so that the nucleus is in an unstable state. However, the nucleus tends to return to a stable state and to do so, it emits detectable particles or radiations until a normal balance between protons and neutrons once again obtains. By the use of a Geiger Muller counter or an ionization chamber it is possible to count the number of these radiations emitted and so not only determine the presence of a radioactive isotope but, in many instances, the amount of material. It is often possible to use very small amounts of material as a tracer. Thus, in a typical tracer experiment using radioactive iodine only some 4×10^{-14} grams of radioactive isotope are required.

As of this date, radioactive isotopes are finding wide applications in cancer research. An increasing number of compounds labelled with radioactive isotopes are available for research studies such as steroid hormones, carcinogenic agents, and amino acids. In using these radioactive materials a number of considerations should be borne in mind from the laboratory standpoint.

Laboratory precautions in handling radioisotopes differ with the type of radiation emitted. Beta particles are moderately damaging but are in general of short range and only superficially penetrating. Accordingly the hazard in handling isotopes emitting beta particles

* Presented before the Laboratory Section of the American Public Health Association at the Seventy-sixth Annual Meeting in Boston, Mass., November 10, 1948..

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lies more with a localized overexposure in contrast to gamma-emitting radioisotopes where the hazard lies with total body irradiation rather than with localized exposure. Thus, the hands of the experimenter using beta emitters are most likely to be overexposed and lucite holders, shields, and thick walled glass containers are usually adequate for shielding. However, the area should always be monitored by the experimenter, for the more energetic beta particles have a range on the order of a meter of air. Radioactive phosphorus which is receiving wide usage in the treatment of leukemia, polycythemia, and lymphoma is a pure beta particle emitter, with a maximum energy of 1.71 m.e.v. Radioactive carbon which has been used to tag methylcholanthrene and urethane is also a pure beta emitter with an energy of only 0.145 m.e.v. Such soft radiations, as with carbon, are readily absorbed by any solid material and adequate protection against millicurie amounts may be found by using a minimum of 6 inch distance from the source with heavy rubber gloves for the protection of the hands.

Gamma rays are quite similar to X-radiations; they are less damaging than beta particles per given amount of tissue exposed but the total amount exposed is much greater because of a high degree of penetration. The interposition of material, such as lead, or distance between the worker and the source is the best protection.

To complete the picture, mention should be made of alpha particles which are highly ionizing but are of such short range in tissue that they are usually unable to penetrate the heavy layer of the skin. They are not encountered in ordinary research experiments.

A number of radioisotopes that emit both beta particles and gamma rays are being used in cancer research. Radioactive iodine has been used in research on the location and treatment of thyroid cancers. This isotope emits beta particles and gamma rays and, accordingly, careful shielding is necessary. Radioactive sodium also emits both beta particles and a highly energetic gamma ray. It has been used in research on the treatment of leukemia.

The amount of radioactive material used is of course highly important. The microcurie amounts used in tracer experiments do not require the precautions for using materials at the millicurie level.

Our knowledge of the permissible safe dose of radiation that a human being may receive in one day is based largely on animal experiments. Previous permissible daily dose has been established as 0.1 roentgen per day but will probably be lowered. By the permissible safe dose we mean the maximum amount of X or gamma radiation to which a normal individual can be exposed in the unit of time specified without immediate or long-range harmful effects. Thus, 0.1 roentgen will *not* alter the hemogram, induce mutations, or impair gonadal function.

It is important to realize that the most important step in dealing with the overexposure problem is to detect potentially harmful amounts of radiation at the laboratory instrument level. The realization of the danger from a particular substance because of the detection by instruments of the intensity of its radioactivity is much more important than the ability to carry out a careful hemogram after exposure. There are two simple devices which may be used to determine the amount of radiation to which a person has been exposed in a particular experiment, and any person handling radioactive materials should wear one of these at all times in the laboratory. The simplest is a piece of dental film contained in a badge which is developed and compared with film exposed to known amounts of radiation. Second, pocket electroscopes are of value, espe-

cially for immediate knowledge as to the amount of radiation to which an individual has been exposed at any given time.

In expressing the time during which a radioisotope retains its radioactivity, the term half-life is used, meaning the time in which one-half of the radioactive atoms disintegrate. The fact that in some instances it means thousands of years emphasizes the care that must be used to avoid ingestion accidentally or of contamination of material. Thus, one of the presently used radioactive isotopes of sodium has a half-life of 3.0 years. Contamination of a table, a floor or similar permanent equipment by spilling this material may demand extensive and expensive replacements before the laboratory can be used safely. Radioactive carbon has a half-life of 5,100 years. Thus, although its very weak energy makes the external hazard minimal, if ingested it will produce radiation exposure for a lifetime. Accordingly, it is not presently used in cancer research in human beings.

In addition to the avoidance of ingestion of radioactive material, consideration must also be given to the introduction of radioactive isotope through a laceration, and the subsequent localization of the material. Thus, radioactive strontium which, because of its metabolic similarity to calcium, has been tested in the treatment of bone tumors, has been shown by Brues to cause osteogenic sarcomas in rats because of its tendency to localize in bone.

The problem of disposal of radioactive wastes has many questions that are still unsolved. In several instances the radioisotope has such a short half-life that it is a relatively simple matter to retain the material in a lead-lined container until a majority of the atoms have disintegrated.

Since it is known that plant and animal life can concentrate the various elements, a dilution of the material with non-radiative element is often advisable.

A consideration of the carcinogenic effects of radioisotopes naturally raises the question of the incidence of cancer in patients who have received radioisotopes as a therapeutic agent. In 217 cases of leukemia receiving radiophosphorus and 94 cases of polycythemia receiving the same material, Dr. John Lawrence's statistics do not show evidence of an increased incidence of neoplasm. This series includes cases treated over a 12 year period. We have had no other evidence of increased incidence of cancer in patients receiving radioisotopes.

The sensitivity of the hematopoetic tissues, especially the leukocytes, to radiation, has resulted in widespread use of the blood count as a continuing check on possible deleterious effects of radiation. It is suggested that persons exposed to radiation should have a monthly blood picture with particular attention to total white blood count and the lymphocyte level. Studies are in progress in the laboratories of the Atomic Energy Commission and in civilian institutions under AEC support on the use of radioactive cobalt as a radiation source similar to radium.

Radioisotopes are distributed from Oak Ridge, Tenn., by the isotope distribution branch under the able leadership of Dr. Paul Aebersold. Before these materials are allotted to institutions, a careful investigation is made of the facilities and protective measures available in the laboratories. Through the field service of the Radioisotopes Branch close liaison is maintained with those laboratories using these materials so that proper protective measures are constantly in force. The record of the Commission, as well as the record of the institutions participating, emphasizes the fact that through knowledge of the materials used and constant safety precautions it is possible to carry out extensive research without jeopardizing

the health of the personnel. At present the AEC is distributing without charge radioactive phosphorus, sodium, and iodine for cancer research. As other new isotopes become important in this field it is anticipated that they will also be distributed without charge.

There is at present no cancer cure in the field of radioisotopes and we know of no cancer case that has been cured by the use of these materials. However, radioactive phosphorus is felt to be the treatment of choice in polycythemia vera, while in chronic leukemia radiophosphorus gives, in general, the same results as radiation therapy with the distinct advantage of the absence of radiation sickness. It would appear that in radioisotopes we have a tool which may prove extremely valuable in studying the genesis and growth of cancer, and intensive studies are under way on the use of radioisotopes in cancer diagnosis and cancer therapy.

A.M.A. Section Plans Symposium on Smog

In view of the lively interest aroused by poisoning from smoke or smog in such situations as that at Donora, Pa., attention is directed to a symposium on air pollution, including smoke and smog, scheduled at the annual meeting of the American Medical Association, June 8, in Atlantic City, beginning at 9 A.M. under the auspices of the A.M.A. Section on Preventive and Industrial Medicine and Public Health. Rutherford T. Johnstone, M.D., Los Angeles, is the Secretary of the Section.

Dr. Johnstone points out that in spite of a good many air pollution studies the public attention has only recently been alive to this issue since the Donora episode. The lay press has contained sensational articles which have stirred up the general public to ask their physicians and their health officers about the nature of smoke and smog.

In the panel as planned the chemical topographical, and meteorological aspects of smog will be presented by H. F. Johnstone of Urbana, Ill.; recent advances in the identification of air pollutants by J. A. Haagen-Smit of Pasadena; causes, constituents and physical effects of smog involved in specific, dramatic episodes (Donora; Meuse River Valley) by H. H. Schrenk of Bethesda; general health aspects of industrial and community smog by William Ashe, Cincinnati; approved control measures by W. C. L. Hemeon, Pittsburgh; administration of an air pollution control program by L. C. McCabe of Los Angeles; and summary and discussion of papers by Robert A. Kehoe of Cincinnati.

A joint session on air pollution under the auspices of the Subcommittee on Air Sanitation of the Committee on Research and Standards, Alexander D. Langmuir, M.D., Chairman, will be held in connection with the 77th meeting of the American Public Health Association in New York City in October.

American Journal of Public Health

and THE NATION'S HEALTH

Official Monthly Publication of the American Public Health Association

Volume 39 May, 1949 Number 5

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PHYSICIAN, HEAL THYSELF

MOST health officers today realize that a child guidance or mental hygiene clinic, staffed by psychiatric personnel, is an essential element in the public health machinery of any well organized community, alongside of its maternal and child hygiene, tuberculosis, and venereal disease clinics. Many of them understand that such a mental hygiene clinic is not—by itself—a complete answer to the problem of emotional health. The traditional health services deal with particular age groups or particular diseases and their programs are, in large measure, mutually exclusive. Not so with mental hygiene. This is perhaps the most nearly universal problem in the entire field of public health. It affects every age group, it complicates every disease condition. Therefore, the mental hygiene approach must permeate every activity of the soundly planned health department.

Our thinking along this line has been greatly stimulated by recent events in the State of California.[1] In 1945, when the State Health Department became responsible for setting up preventive mental health services, Dr. W. L. Halverson, State Health Officer, asked The Commonwealth Fund of New York for help in working out suitable plans. The Fund sent a physician with pediatric and psychiatric training to study the problem. He took the position that awareness of interpersonal relationships was the cornerstone of mental health, and on his advice the State Health Department employed, in 1946 (also with assistance from the Fund), a full-time mental health consultant who shared this belief. In his first year and a half this physician not only thrashed out basic issues with his colleagues on the state staff but demonstrated and taught the possibilities of a mental health approach to clients in local health service. In 1947, some of the men he had worked with were eager for more contact with psychiatric thinking. In response to their wish the Fund joined forces with the State Department of Health to organize an institute on mental health in public health which was held at Berkeley for the two weeks beginning July 5, 1948.[2]

The twenty-seven "students" and sixteen "teachers" who came together for this institute promptly began to talk about public health problems on an equal and informal footing. The students were all public health administrators, mostly

city and county health officers. Three of them, from outside California, represented the states where The Commonwealth Fund has been most active in support of public health: Tennessee, Mississippi, and Oklahoma. The teachers were a carefully mixed group—eight psychiatrists, three pediatricians with psychiatric training (chosen with the potentialities of the well child conference in mind), and five public health leaders to serve as interpreters and referees. There were observers from the U. S. Public Health Service, the U. S. Children's Bureau, and the Oregon State Health Department.

The plan of the institute included lectures, clinical work, and group discussion. The lectures revealed certain glimpses of psychiatric therapy—the developmental history of the personality, the nature of anxiety, the problems of authority—with some data on the epidemiology of mental diseases. The most important factor was the clinical work, conducted in the regular clinics of the health departments of Berkeley, Oakland, and Richmond where psychiatrists demonstrated, and many of the students themselves conducted, leisurely interviews with typical patients—mothers in the antepartum and well baby clinics, crippled children, tuberculosis suspects, syphilitics.

Finally, in group discussions, the whole educational process was brought to a focus. "The students and their leaders got together daily in small sections, occasionally in larger groups, and informally at evening 'bull sessions.' There was talk of alcoholism; the relations of the health officer with the newspapers; social medicine; budgetary problems in public health; what to say to the parents of a defective child; how to gauge the emotional maturity of a candidate for a job; staff parties; nursery schools; the fear of death and the question of immortality; whether psychiatrists tend to think of pleasing the patient; unmarried mothers and whether or not they should keep their children; the difficulties imposed on the health department by civil service; the case of a woman who married, against advice, a man who beat her and why women do such things; the boss as father symbol; how to train and supervise part-time physicians in the health department; what responsibility public health carries for altering cultural patterns; when an interview is therapeutic; the limitations of psychotherapy as applied to mass problems. None of the psychiatrists attempted to impose a preconceived program on the discussion, and the freedom with which men ventilated their professional and personal problems, their skepticism with respect to psychiatry, and their puzzled resentment against mental health propaganda was an indispensable part of the process by which group thinking became integrated."

The institute apparently achieved three major results. In the first place it made clear to a group of health administrators that psychiatry has much more to offer than the diagnosis and treatment of mental disease. As Geddes Smith says, "It is because some psychiatrists have learned how to create a setting in which people feel free to be themselves, and in which people can with help begin to work out their own problems, that they have something important to give to public health. This gift is not confined to psychiatrists; many people—including many health officers—have it naturally. But public health has taken small account of it even when it was instinctively practised by health workers, and the color which it gives to specific dealings with patients differs from that of ordinary health department procedure. Where dynamic psychiatry is permissive, public health is more apt to be instructive, didactic, sometimes even coercive. Its philosophy, a seasoned public health worker said at the institute is that of telling the patient what to do about something." Whereas, the psychiatric interview

("The giving of psychological support through listening") attempts to relieve and reassure, to make the patient feel at home, to give him opportunity to talk about what really troubles him.

It is obvious that this mental hygiene viewpoint is of major importance in the day-by-day activities of the health department. To quote again from Geddes Smith, the discussion of the institute "seemed to indicate agreement that respect for the human personality and some understanding of it, some feeling for people as individuals, can make everything a health department does for people more effective; that the health department, dealing with people in critical periods of their lives—childbearing, early infancy, chronic disease—has a superb opportunity to foster their mental health and so to render a truly 'preventive' service; that the health department shares with the whole community responsibility to provide facilities for the treatment of mental disorders; and that if a health department is fortunate enough to employ a well qualified psychiatrist or psychiatric social worker it is better to use him in training its own staff for their everyday jobs than in treating the mentally ill."

Finally, it seems clear that the approach emphasized at Berkeley has profound implications—not only with regard to contacts between the health department and the public, but also with respect to relationships between the staff members themselves.

The health officers at the institute were quick to realize that the same principles of approach which are effective in dealing with clinic patients carry over into staff relationships and relationships between the health department and the community. From the very first day the administrators began translating everything they heard into administrative terms. They knew that the hierarchy of the large health department creates tensions between staff workers, and that the more intimate community contacts of the small department call for the utmost skill. As soon as the principles of a good interview were brought to their attention they realized that these principles were pertinent in picking staff members and adjusting friction between them, in relieving their anxieties, even in discharging staff members gracefully. As they talked about these matters the health officers took the opportunity of ventilating many of their own characteristic anxieties: their frustation when they are caught between their own desire to do the best job they can and the niggardliness of appropriating bodies; their tensions in dealing with practising physicians; their discomfort in their relations with health educators; the uncertainties associated with work financed by federal funds; the interferences with direct action that come from pyramidal organization on the one hand and civil service on the other. They knew that if they were anxious, their associates were anxious too; and realizing that from morning to night the bulk of their work was done by and through interviewing of one sort or another, they were glad to understand better what they were doing and failing to do with this tool of relationship.

The effect of Dr. Zimmerman's early spade work in the California State Department of Public Health is well illustrated in Ann Wilson Haynes's description of the Inservice Training Program of the department presented at our Boston meeting.[3] Mental hygiene begins at home, in the staff of the health department itself; and California has shown us how the job can be attacked.

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THE AMERICAN BOARD OF PREVENTIVE MEDICINE AND PUBLIC HEALTH

READERS of the JOURNAL[1] will have noted that a specialty board of Preventive Medicine and Public Health has been established, after incorporation, and with the approval of the Advisory Board on Medical Specialities and of the Council on Medical Education and Hospitals of the American Medical Association. It is now ready to operate.

The specialty board system goes back to 1917 when the Board of Ophthalmology was established. Within the succeeding three decades, 16 other specialty boards have been developed. It cannot be doubted that this movement has been a significant feature of medical education in the 20th century. It has rendered a most important service in setting standards for the improvement of medical practice and there has been continuing effort on the part of those responsible to establish a pattern of studious work and careful practice among physicians after they leave their interneship. It is reported by the deans of several outstanding medical schools that a large proportion of their graduates, in some cases as many as 90 per cent or more, are planning to complete the requirements for one or another specialty before undertaking practice. The resulting demand on residencies in clinical specialities has been a notable feature of the post-war period.

There are no doubt certain serious problems raised by this generally admirable development. It is inevitable that a major proportion of the need for medical care falls in the area of general unspecialized practice; and it is perhaps fortunate that some medical schools appreciate this fact. If medical practice in the future is to have a majority of physicians limiting their practice to a specialty, especially if these men on the whole tend to be the cream of the crop, it will be conceded that only those communities of larger size, say 25,000 and up, can expect to be equipped with physicians in a majority of the specialities. The resulting disadvantage to small town and rural community practice is manifest, and the specialty board system, by and large, is tending to make more difficult the task of getting more service out at the grass-roots.

Among the solutions offered for this dilemma we may note the concept of some of those identified with the specialty board for Internal Medicine who believe that the general practitioner of the future should be a qualified man in this specialty. Another possible solution is that all certified specialists should limit their practice to persons referred to them by other physicians, a system much more frequently followed in Great Britain than in the United States.

The specialty board program, in any case, is now well established as a national policy in the United States; and the necessity of providing for public health as a medical specialty is obvious. In the past, physicians operating as health administrators in government service have been seriously handicapped in financial status and prestige by the lack of specialty board status.

Public health physicians have need for closer links with clinical medicine and they believe that the practice of public health represents a specialty which deserves recognition with other medical specialities. They have made their case and we shall now have an opportunity to observe how the proposal works in practice.

The specialty board in Preventive Medicine and Public Health will provide a tangible measure of competence in our field. A mayor or a governor who wishes to select a health officer will now have an objective test of the training

and experience of a given physician. At its best, this Specialty Board will crystallize more sharply the qualifications of those who really are competent. It will probably result in a wider recognition in professional circles of the fact that public health is no longer an area where those who cannot make a success of other practice can find their life's work.

The work of the specialty board will be greatly facilitated by the fact that public health during the last three decades has developed the most thorough graduate course available in any of the specialities, none of which enjoys the academic recognition that has come to public health, and none of which can present an educational system which compares with the ten accredited schools of public health. The established accreditation system under A.P.H.A. auspices fits hand in glove into this picture.

The fact that public health in North America now has the benefit of a well developed system of modern examination methods also makes it more readily possible, in this field, to discriminate between the qualified and the unqualified than in any other specialty (although the specialty board for Internal Medicine has also begun to use objective type examinations). The Merit System Service of the American Public Health Association, however, during the last eight or nine years has developed about 20,000 objective questions in this field and an experience which approaches 500 examinations of public health personnel.

If this specialty board in Preventive Medicine and Public Health is to operate successfully, it will, however, require a very substantial improvement in field training areas which must compare in quality with the facilities for residency training in clinical specialities. Fortunately our Committee on Professional Education has anticipated this need through the publication of an important report on this subject.[2] It may be expected that the influence of the specialty board will have a favorable effect on these training facilities, as has been manifest in the area of hospital residencies.

It is already apparent that hundreds of younger physicians will seek to establish their qualifications in public health through the channels of this board. It is fortunate that the board has been established under auspices that include, beside the American Medical Association, those of the Canadian Public Health Association and the American Public Health Association. The board itself is off to a good start with excellent leadership.

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MENTAL HEALTH ON A GLOBAL SCALE

IT is gratifying to note that the Executive Board of the World Health Organization at its March meeting approved the first world-wide program for mental hygiene ever to be undertaken on an international scale. Along with environmental sanitation, control of cholera, tuberculosis, and venereal diseases, and promotion of maternal and child health, mental hygiene is endorsed as one of six major projects to be undertaken in 1950; and a budget of $942,550 has been recommended for the mental health program.

In view of the prominence given to mental health in the WHO Constitution,

this action does not come as a surprise. Yet it is a source of gratification that interest in mental health is no longer to be limited to pious platitudes but is to take shape in action.

The program recommended to the WHO includes the following elements:

1. The organization of the Mental Health Section of WHO so that it may assist in the collection and coördination of all the existing data on the problems and facilities for mental health work throughout the world.
2. The provision of multi-disciplined teams for investigation of mental health problems, particularly amongst rural communities. It is suggested that one of the teams should be working in conjunction with the Mother and Child Health Project of WHO, whilst another one should be coördinated with the survey work of UNESCO and FAO.
3. Research teams working on mental health in industrial communities.
4. A team investigation in the field of student mental health, carried out not only as a reconnaissance but also as a demonstration.
5. Multi-disciplined teams sent to give demonstrations of methods of survey and prophylaxis.
6. Education experiments amongst existing WHO field teams, public health administrators and mental health workers. Long and short term fellowships in the mental health field to be encouraged.
7. Demonstration project in education of the public.
8. The establishment of an expert committee on mental health working for WHO and the building up of a multi-professional team for its own mental health staff.

It is our earnest hope that the project as outlined will be approved at the second World Health Assembly to be held in Rome next month and that the necessary funds may be appropriated to carry it out. The sum allotted is less than one-fifth of the total WHO budget; and this seems modest and reasonable. It is more than time that we recognized, in actual practice—what we all know in theory—that mental and emotional problems contribute a good half of the total burden of disease and disability.

JOHN J. SIPPY

THE death of John J. Sippy on March 15, has removed one of the outstanding leaders of administrative public health.

Born at Venice, Ill., in 1879, Dr. Sippy took his medical degree at P. & S., St. Louis, in 1899. He practised medicine in Kansas for thirteen years (serving also as health officer of Sumner, Kans., from 1908 to 1913). He became epidemiologist of the Kansas State Department of Health in 1913 and held the same position with the Montana State Department from 1919 to 1922, and served as director of child welfare in that department from 1922 to 1923.

The opportunity for his real life work opened up in the latter year. San Joaquin County, Calif., had been visited by a severe epidemic of diphtheria; and its residents decided to take advantage of a half-forgotten California statute which—since 1917—had permitted the establishment of full-time district health departments.

The preliminary steps to create such a district were taken and Dr. Sippy was named as health officer. The County Board of Supervisors belatedly discovered that valuable patronage was to be snatched from their clutches and brought suit to test the constitutionality of the enabling Act—which temporarily stopped all appropriations for the support of the new department. Led by Rotary Clubs in the major cities an extraordinary uprising of citizen interest was developed. The organizations concerned raised by popular subscription the funds to carry the department for eight months (until the basic legislation received final approval);

and Dr. Sippy and his staff carried on with personal drawing accounts from this fund.

When the battle was finally won, Dr. Sippy built up in San Joaquin County the first district health unit under the California law and developed a program of such excellence that Stockton in the late 20's was a Mecca for visitors who wanted to study a sound county health machine. His patient and determined spirit was manifest in every detail of the department; and members of the staff still vividly recall his routine daily rounds which involved at least a brief contact with every member of the team.

Dr. Sippy joined the American Public Health Association in 1919 and was elected a Fellow of the Health Officers Section in 1930. He served as President of the Western Branch in 1941 and was elected President of the American Public Health Association in 1943—the first President of the Association to be drawn from the vitally essential group of district and county health officers. He represented public health at the grass-roots, and public health of a quality to inspire the admiration of the profession throughout this continent.

Credit Lines

THE COMMUNITY HEALTH COUNCIL STORY IS BEING TOLD

The Division of Public Health Education of the Nebraska State Health Department, whose Director is Nina B. Lamkin, has prepared in mimeograph form some 15 pages of questions and answers about health councils. The record is set straight at the outset by stating that the ultimate goal is more local health departments in Nebraska.

This is a homey, practical document that suggests what health needs might be found in a community, names of organizations that should be brought together in organizing a community health council, and mentions existing Nebraska examples of the types of health councils discussed. Its definition of a local health department is "an organization set up in any city, county, or district at the request of the people to give them public health protection; to help them in defining their public health problems, and in utilizing all community and state resources in doing something about them."

The Iowa State Health Department has prepared *Iowa Health Council Plan* along similar lines. This includes, besides the step by step instructions for organizing a council, a suggested constitution and a report of a survey of public health resources in Iowa made jointly by the State Federation of Women's Clubs and the Department of Health. The study concludes that there is an almost complete lack of public health services at the local level and recommends that the federation cooperate in bringing about adoption in the 1949 legislative session laws necessary to permit establishment of satisfactory health departments.

The Kansas State Health Department has put its community health council lesson in a beautiful Chinese red pamphlet that defies indifference. Nor does the material inside disappoint expectations. Its last word is that no community can afford to be without the services of a local full-time health department.

KEEPING LAW MAKERS INFORMED

The Kansas State Board of Health has prepared for the 1949 State Legislature a digest report of its activities for the biennium ending June 30, 1948. It is a very well put together report that assumes maturity and intelligence in the state legislators. Facts are given straight with a minimum of self praise. The material is illustrated with a number of graphs.

U. S. VS. BRITISH PLUMBING PRACTICES

"Plumbing in America," by F. L. Barrow, and published by His Majesty's Stationery Office, London, describes the differences in plumbing practices as seen by Mr. Barrow during a trip of several months in the United States, and as practised in Great Britain. The report gives a useful review of practices in the United States. The price is 6d.

STARTING A MEDICAL CARE PROGRAM RIGHT

It will be remembered that the City of Baltimore recently asked to have the medical care program being carried on in the rest of Maryland extended to the city. The new city program carried on by the health department is limited to recipients of public assistance. In opening this service the health department has published a medical care

pamphlet telling recipients just how the program works and what they need to do to make it most effective.

AFTER A REPORT—ACTION

The *Brown* (Esther Lucille, Ph.D.) *Report on Nursing for the Future* has been out since late summer of 1948. In January, 1949, a flock of agencies in Indiana—the State Board of Health, State Nurses' Association, the division of nursing education of the State University, the State League of Nursing Education, and the State Board of Nurse Examiners—coöperated in a three day workshop designed to answer the question as to what Indiana should plan in relation to the report. The recommendations, too detailed for analysis here, are available from Helen J. Weber, Division of Nursing Education, Indiana University, Bloomington.

THE EPIDEMIOLOGY OF SYPHILIS

The Social Hygiene Committee of the New York Tuberculosis and Health Association has made available reprints of *The Epidemiology of Syphilis*. Written by E. Gurney Clark, M.D., Chairman of the Committee on Epidemiology of the Association of Syphilis Clinics, this article appeared in the November, 1948, *Journal of Medicine*. The Chairman of the Social Hygiene Committee is Frank C. Combes, M.D., and of the Association of Syphilis Clinics, Howard Fox, M.D.

The reprint is available in limited quantities from the Social Hygiene Committee, New York Tuberculosis and Health Association, 386 Fourth Ave., New York 16. Jacob Goldberg is the Secretary of this committee.

ANNUAL HEALTH REPORT AS NEWSPAPER ADVERTISING

The Lawrence-Wabash Health Department, with headquarters in Lawrenceville, Ill., presented its report for 1948 in the form of four advertising lay-outs headed respectively "Action for Health," "Polio—The Pearl Harbor of Public Health," "Declaration of War on Disease," and "The Atomic Bomb of Public Health."

According to the announcement of the County Board of Health, of which Roy R. Rucker is President, it was decided to select the six newspapers of the two counties in order to give a reader circulation in excess of 50,000 persons at what was said to be the same cost as the conventional report separately printed which would at best reach only a few thousand circulation. Dale E. Scholz, M.D., M.P.H., is the Director of the bi-county department.

SCHOOL DISTRICTS CONSOLIDATE

The 1947 Legislature of Illinois passed a community unit school district act which was recently upheld by the state supreme court. As a result school elections had already in the fall of 1948 reduced the 12,000 school districts in the state to 7,500 with the expectation that the number would be reduced to 3,000 by mid-1949. Fewer than 1,000 are recommended by county survey committees.

Several other states have enacted laws for the reorganization of school districts, a number of them passed by the 1949 legislative sessions. A distinguishing feature of these laws is the provision of a state commission and county committees to plan for school district reorganization and to set definite time limits within which plans must be acted upon.

ALCOHOLISM—A PUBLIC HEALTH PROBLEM

Evidence mounts that public health, and indeed medicine, now recognize that chronic alcoholism is also their province and not that of the penologist alone. The latest such evidence is the January, 1949, issue of *Health News* of the New York State Department of Health. This has an editorial on The

Problem of Alcoholism, an article on Chronic Alcoholism: A Public Health Problem, by Anton J. Carlson, M.D., and Joseph Hirsh, President and Executive Director respectively of the Research Council on Problems of Alcohol, as well as an outline of the program of the Committee on the Problems of Alcoholism of the State Medical Society by its Chairman, Milton G. Potter, M.D. It reports that 8 states have within the past 3 years established permanent programs to cope with alcoholism and that several others are expected to do so in the 1949 legislative sessions.

WHAT THE MENTAL HEALTH ACT MEANS

Printed in black, white, and restful green, *The National Mental Health Act and Your Community,* in 16 pages and a few charts, tries to tell each citizen what the Mental Health Act passed by the 80th Congress means to him and his community. The watchwords are prevention and working together. There is a foreword by Oscar Ewing, Federal Security Administrator. U. S. Gov. Ptg. Office, Washington, D. C., 10 cents.

BALTIMORE FIRST TO TELEVISE HEALTH

What is reported to have been the first health department television program was carried on in Baltimore during the past winter. In a series of weekly programs, the various aspects of disease prevention were televised. Coöperating with the City Health Department were the Medical and Chirurgical Faculty of Maryland and the State Medical Society.

30 YEARS OF CHILD HEALTH IN NEW JERSEY

Thirty Years Progress in Maternal and Child Health, by Julius Levy, M.D., Chief of the Division of Maternal and Child Health, New Jersey State Health Department, has been reprinted from the *New Jersey Public Health News.* It summarizes the not inconsiderable progress made in saving infants in that state since 1919 when the Maternal and Child Health Division was started. The infant mortality rate, for example, was 84.7 in 1919, 28 in 1947. Available from New Jersey State Department of Health, Trenton.

A NEW HEALTH COUNCIL PUBLICATION

Health: Everybody's Business began publication as the monthly organ of the Health Council of Greater New York in February. In four pages of mimeographing it had capsule stones of health and Health Council News of New York City. Health Council of Greater New York, 130 East 22d St., New York 10.

SCHOOL HEARING CONSERVATION PROGRAM

During most of the school year 1947–1948, the Illinois Commission for Handicapped Children, through its Advisory Committee on Hearing Conservation and Rehabilitation, carried on a Hearing Conservation Program in the public and parochial schools of Will County. This county of about 115,000 population was chosen because it has both urban and rural schools and has an organized full-time county health department. This was in effect a pilot project to develop experience for a hearing conservation program throughout the state.

In the program more than 20,000 children in 188 schools were given audiograms. About 8 per cent were referred for otological examination.

The report of this project has been printed by the Illinois Commission for Handicapped Children, 160 North La Salle St., Chicago 1, from which it is presumably available.

NATIONAL HEALTH COUNCIL DIRECTORY

The National Health Council recently issued the 1949 directory of its 23 member organizations. Not only does it

have excellent summaries of the goals, programs, and services of each of the 23 agencies, but also a brief historical sketch of the Council itself together with an outline of its purposes and present programs. "The aim of the Council," says the brochure, "is the strengthening of the public health movement, both official and unofficial, through common planning and action of its members and through development of widespread citizen participation in and support for measures that will help the individual maintain maximum mental and physical health." Perhaps that is another way of saying, "Lets get on with the goals on which we are in common agreement."

National Health Council, 1790 Broadway, New York 19. Single copies, 25 cents; 25–49 copies, 20 cents each; 50 or more copies, 15 cents each.

LIONS SHED LIGHT ON A SCHOOL

The Lion's Club of New Kensington, Pa., found a dramatic and highly practical way of carrying out its national program of aiding the blind and conserving the sight of the young. About two years ago it underwrote the cost of relighting one classroom of the New Kensington High School. The installation of fluorescent and louvered fixtures raised the lighting level and provided comfortable, glare-free conditions throughout the room.

After a year's experience, school authorities and parents saw the sense and economy of making seeing easier in the classroom, and the entire school lighting has been modernized. Another example of a voluntary agency showing the way.

METROPOLITAN LIFE STATISTICAL BULLETIN AVAILABLE TO HEALTH WORKERS

Credit Lines, reviewing the contents of the *Bulletin* for the last year, notes the pertinence of the topics discussed for health departments and voluntary agencies and points out the utility of the month-by-month record of mortality experience among the Metropolitan's millions of policy holders as a readily available base line against which local observations can be checked. No other summary of mortality is available for a large group so promptly.

Among the topics important to the health professions in the last volume of the *Bulletin* may be mentioned observations on regional population growth, the marked decline in fatal accidents among women, conserving the life and health of preschool children, health conditions in Europe, malaria being wiped out, high accident death toll among preschool children, smallpox almost eradicated, on the confidential reporting of causes of death, improvement in cancer mortality among women, further progress in longevity expected, and on making maternity still safer.

The *Bulletin* is available for free distribution from the Metropolitan Life Insurance Co., 1 Madison Ave., New York, N. Y.

OCCASIONALLY SCREAMING DOES IT

The first step in overcoming one's faults is to recognize them, it has been said. If so, Arizona is already started on the road to lower infant mortality and tuberculosis death rates, better cess pools and garbage disposal, and more extensive pasteurization of milk.

In the best scare headline tradition the *Arizona Times* of Phoenix for two consecutive days at the end of 1948 carried a number of articles telling what is wrong with the health picture of Arizona—the second highest infant death rate of any state in the union, the highest tuberculosis death rate (called the white plague of Arizona), an undulant fever incidence rate of as high as 5.8 per cent, water contamination by cess pools widespread, and garbage disposal nearly everywhere unsanitary.

That a state, which, as the paper says, bases its bid for tourists and winter

visitors largely upon its health-giving climate, should itself expose all these health hazards is to be commended. It should be noted, further, that Phoenix is not cited among examples of certain good conditions as Tucson and one or two other localities are.

The pay-off: The 1947 state legislature made a niggardly appropriation for the state health department in reply to the Governor's vigorous message demanding an appropriation adequate to meet the challenge. Reprints of the Phoenix articles have been circulated to all members of the 1949 legislature with the message, as it were, pigeonhole similar legislation this year, if you dare!

NEVADA NEWSMONGER BACK

The Public Health Nursing Division of the Nevada State Health Department used to have a publication called "Newsmonger." For 6 war and postwar years it fell by the wayside. As of February, 1949, it was revived as a quarterly and renumbered Vol. 1, No. 1. Its stated purpose is "to help the field nurses to maintain contact with each other and with the nursing programs in various stages of development in the various counties" and "to give a clearer picture of the functions and activities of the other divisions of the state health department." It also will give the state health officer opportunity "to express his own philosophy in regard to ways of adapting public health nursing programs to local facilities and circumstances."

CITY NOW PROVIDES BABIES' MILK

An evolutionary process begun in Baltimore in 1884 has now reached its goal in that the Baltimore Health Department has absorbed completely the work of the Babies Milk Fund Association of that city.

The association grew out of a summer hospital for babies opened in 1884. Formally incorporated in 1906, it had already several years before opened its first stations to provide milk, medical examination, and nursing instruction. In 1938, when the plan was made for gradual transfer to the health department, more than 13,000 babies were under care at 40 weekly clinic sessions in 28 stations.

In 1919 the health department established the first of its similar clinics and in January, 1949, after it took over the last of the Babies Fund Clinics, it was serving more than 20,000 infants in 81 weekly sessions at 42 well baby stations scattered throughout the city.

Two things are particularly notable for other agencies going through a similar evolutionary process:

a. The voluntary agency pioneered in showing the need and ways in which it could be met, but did not develop a "vested interest" in the service.

b. The transition from voluntary to official sponsorship was planned and gradual enough to avoid disruption of service.

REPORT ON "TAKE A TEST"

For those who visited and stayed to "Take a Test" in the Merit System booth at the A.P.H.A. Annual Meeting in Boston a complete report of that experience is now available. It includes the results of the tests, a set of the tests themselves, and a statistical analysis of the scores and questions. Six tests were offered. Some persons took more than one test, a few answered all the tests, and, in all, nearly 500 persons participated in the projects, or more than 10 per cent of those registered at the annual meeting.

More persons chose to test themselves in Facts, Foibles and Fallacies (a test of common misconceptions in the field of health) than in any other one field. The most difficult test, with 169 persons answering, was Grass Roots and Ivory Towers (Administration). When scores are broken down into age groups, years of experience, education, type of occupation, etc., for each test, there are

challenging revelations. For full appreciation of the results the report must be read in detail.

There are just as many interesting findings in the analysis of the items as in the differences described in the average scores obtained by the various categories of examinees. To disclose just one reassuring fact: 84 per cent of those answering the question know that it is now thought that physical hardships alone do not of themselves induce colds unless an infecting agent is present.

It may be a little disturbing to read that only 41 per cent of those taking the test with this question in it, knew that Samuel J. Crumbine, M.D., has recently written a book dealing with the early days of public health in this country. Other arresting findings await study.

The report as a whole offers a good example of the processes of testing adopted by the Merit System Service. Copies may be ordered from Merit System Service, American Public Health Association, 1790 Broadway, New York 19. $1.00.

PREVIEW OF CHILD HEALTH STUDY

With a very attractive pamphlet—*The Road Ahead for Better Child Health*—the American Academy of Pediatrics has whetted the appetites of those who await the full report of its monumental study of child health services. Published by the Commonwealth Fund, this has just come off the press and is ready for distribution.

The pamphlet picks up and dramatizes in charts or pictures some of the startling facts found by the study. The picture of the sturdy youngster trudging doggedly down the road of his future is not the least of the pamphlet's appeal. Available from the Committee for the Improvement of Child Health, 1740 Bainbridge Street, Philadelphia 46.

A PATIENT'S HISTORY FORM

Oliver E. Byrd, M.D., Ed.D., known to health workers for his annual *Health Instruction Year Book*, has prepared a *Patient's Self-History Form* for the use of physicians and hospital administrators. Designed as a time saver for the doctor, it is the patient's own inventory of his health history as he sees it.

The inventory is brief but inclusive, 8 pages in all. The patients answer questions under five main headings: family health, social history, hospitalization, work experience, and military experience.

The *Self-History Form* is published by the Stanford University Press, Stanford, Calif., from which it is presumably available.

ANNUAL REPORTS

Chicago's Human Responsibilities and How They Are Met is the title of the 33rd annual report of the Chicago Council of Social Agencies. Community responsibility is its theme carried out in photographs, charts, and a high quality of production. Chicago Council of Social Agencies, 123 West Madison St., Chicago 2.

Lorain County (Ohio) General Health District, 29th Annual Report. In accordance with what appears to be a current trend, this annual report is in the form of a weekly country newspaper—advertisements and all. It should be said first that this health district is made up of the rural areas of Lorain County, thus serving about 45,000 of the county's 112,000 persons. The remainder are served by two city health districts, Lorain and Elyria, each with part-time health officers. The county district report shows a well balanced program, a training program linked to schools of public health and to overseas visitors, and a well districted nursing program. Its articles are newsy in the journalistic tradition and its ad-

vertisements are uniquely thought provoking. For example, "Wanted: Experienced bartender who will coöperate with health department inspectors."

The financial figures show an expenditure for the basic budget (excluding the training program) of a little less than $1 per capita in 1948. Including the budget of the training center, met largely by Kellogg Foundation funds, expenditures were approximately $1.33 per capita.

The National Committee for Education on Alcoholism reprints its annual report from the December, 1948, *Quarterly Journal of Studies on Alcohol.* Perhaps its most revealing statistic is that in one year, the fourth of the committee's existence, local affiliated committees increased from 25 to 39, with 43 additional ones in formation (5 of these and 2 others not then contemplated have been formed since the report came out). These local committees are located in 27 states, the District of Columbia, Canada, and Mexico.

This report describes fully the work of the National Committee and provides thumbnail sketches of each of the local committees. National Committee for Education on Alcoholism, 2 East 103rd St., New York 29.

SOCIAL WORK YEAR BOOK TO BE CONTINUED

The Social Work Year Book, of which the 10th Edition, 1949, has recently been published by the Russell Sage Foundation, is to be carried on in subsequent editions under the auspices of the American Association of Social Workers. Margaret B. Hodges who edited the 10th Edition will continue as Editor of the *Year Book.*

WORTH ACQUIRING

Safer Ways in Nursing to Protect Against Tuberculosis is a guide for precautions in the care of tuberculosis patients. It was prepared for the National Tuberculosis Association by the Joint Tuberculosis Nursing Advisory Service. It should be particularly valuable for directors of nursing services in general hospitals, sanatoria and other voluntary and official public health agencies. Available from state and local tuberculosis associations.

Rheumatic Fever and the School Child is reprinted from September, 1948, *Pediatrics,* the journal of the American Academy of Pediatrics. It is a statement to guide school health authorities, prepared jointly by the Committees on School Health and Rheumatic Fever of the Academy of Pediatrics. Reprints are not available but there is blanket permission for its reproduction. *Pediatrics* office is at 325 N. Euclid Avenue, St. Louis 8, Mo.

Program Package for Home Safety is said to be for the doer communities who want an answer to the home safety problem. It is a guide kit for the planning and carrying out of a safety program by a community home safety program. It has ideas for a sample club program, news releases, radio talks, exhibits, surveys, etc. The kit sells for $1 or $2, including a year's subscription to the bi-monthly news bulletin and the *Home Safety Review.* National Safety Council, 20 N. Wacker Drive, Chicago.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

Dentistry in Public Health—*Edited by Walter J. Pelton and Jacob M. Wisan. Philadelphia: Saunders,* 1949. 352 pp. Price, $5.50.

In addition to their own contributions to *Dentistry in Public Health,* the editors of this long needed and long awaited volume have evinced a high caliber of editorship in numerous ways. Two of these are particularly noteworthy; first, the excellence of their selection of contributors and, second, the orderly fashion in which the material is arranged.

Even those who may feel that some other person might have covered better an assigned phase of dental health will admit that selected contributors rank high in any list to which the editors might have turned. Not only their names, but the excellence of their contributions give evidence of the care exercised in their selection.

The purpose of the book is probably best attested by the uniquely logical order in which the material is presented. Sequentially it carries public dental health from an initial sociological "setting" through all, or very nearly all, of its phases and ramifications. Hence, as a textbook for undergraduate dental students and dentists novitiates in the field of public health, or as a ready reference for the dental profession and public health personnel, it offers an amazing amount of data in a logical order.

Many accustomed to thinking of dental health programs as consisting of examinations and, possibly limited corrective care of the teeth, are apt to be amazed at the ramifications and intricacies disclosed on the problem in this book. To such readers the book should prove informative and interesting. However, as chapters such as those on Biometrics, Surveys, etc., will attest, the book is not meant for casual reading.

The bibliographical references give additional value to the book, as does its comprehensive index. Several noted errors in dates and typography are not sufficiently important to detract from an overall excellence.

RICHARD C. LEONARD

Understand Your Child — Ages 6 to 12—*By Clara Lambert. New York: Public Affairs Committee, Inc.,* 1948. No. 144. 32 pp., Price, 20 cents.

We have long needed this illustrated 32 page pamphlet, which was written primarily for parents of children from 6 to 12 years of age, the so-called "forgotten years of childhood." The author, for 12 years Director of Teacher Education at the Play School Association, shows real understanding and describes with charm and humor the behavior which is "six-year oldness," "seven-year-oldness," and so on. She has described the characteristic behavior and the "pack of worries" carried by normal children at 5 age levels, including 6, 7, 8, 9, and 10 to 12 years.

By describing the behavior and problems of normal children, the tensions and worries of parents may be relieved because of their understanding and willingness to accept children as they are. "Some Hints for Parents" are included with the advice that there is no rule of thumb to follow.

There is a place for this pamphlet in the school program, in parents' study groups, in the hands of the grade school

teacher, and public health nurse, as well as meeting individual parent needs.

RUTH J. RAATTAMA

The Story of Blood—*By John H. Glynn. New York: A. A. Wyn, Inc.*, 1948. 285 pp. Price, $3.00.

Dr. Glynn has used the central theme of the blood to provide a thumbnail sketch of many aspects of medicine and human biology. With the familiar device of tracing the main lines of thought which have resulted in modern concepts, he manages to convey to the layman a considerable amount of information on subjects ranging from abscesses to white counts, from arteriosclerosis to the effects of worry, from the adrenal glands to vitamins. In barely 60,000 words a surprising amount of accurate knowledge is clearly and simply presented. The approach is reminiscent of Paul de Kruif, minus the exuberance and hyperdramatics. In a more ideal society we might hope that the facts given by Glynn would be taught in every high school; as it is, we must hope that books like this will reach a wide audience.

ANCEL KEYS

Textbook of Attendant or Practical Nursing—*By Katherine Shepard (3rd ed.). New York: Macmillan*, 1948. 506 pp. Price, $4.25.

This is the third edition of a time-tested textbook originally published in 1935. Its material has been drawn from the experience of many years of teaching attendant nurses in the Household Nursing Association of Boston, enriched by new chapters on the care of the well child, the aged, the helpless and chronically ill patient. The revision has taken into consideration the Analysis of Practical Nursing issued under the auspices of the Vocational Education Division of the Federal Security Administration and is in accord with the curriculum prepared by the Approving Authority of the Massachusetts Board of Registration in Nursing. The book, therefore, represents authoritative statements in this field.

The character of the material in this textbook may best be described as sensible, practical, and simple. Its scope is definitely limited to the average capacity of a non-professional, non-scientifically-prepared individual who is learning to be an assistant to a professional nurse or to be in charge of those definitely not in need of professional nursing care or supervision. Special pains have been taken to include procedures of use in homes and hospitals and to adapt the material through simple language and familiar examples to the elementary *but skilled* level of nursing expected of the attendant.

All in all, instructors of attendant and practical nurses will find this a serviceable basic textbook on which to build their teaching. There will be need for reference to considerable recent supplementary reading for students in nearly all of the subjects presented because there is only one brief list of reading suggestions for the student. Perhaps this is as well, since it is difficult to keep lists of health education and visual aid materials up-to-date.

DOROTHY DEMING

Irregular Discharge—The Problem of Hospitalization of the Tuberculous. *V. A. Pamphlet 10–27 Washington: Veterans Administration*, 1948. 64 pp. Price, $.20.

This is a penetrating inquiry into the perplexing problem of irregular discharge among tuberculous patients in all V.A. and "Non-V.A." hospitals in which veterans were housed during the month of July, 1947 (irregular discharge is defined as any discharge of a patient from a hospital without professional medical sanction).

The study comprises: analysis of incidence of irregular discharge; analysis of basic causes of irregular discharge,

including components of social and psychological significance; summary analyses of earlier studies; and well considered recommendations for preventive measures based on findings.

The approach is unique in comparison to previous studies in that (1) patients were interviewed not earlier than three months after discharge (October, 1947–December, 1947), when reason was more likely to replace emotion; (2) interviews were made by experienced personnel "who would have no reason to regard the irregular discharge as a reflection upon their professional competence." Furthermore, since the Veterans Administration constitutes the largest single hospital system in the United States, there was a greater opportunity for validity of comparison among hospitals over a wide area than could otherwise be obtained.

The study is well annotated with supporting bibliography. A scientific document of distinct value, it should prove of interest to anyone concerned with tuberculosis control.

ROBERT W. OSBORN

Manual for Medical Records Librarians—*By Edna K. Huffman. (2nd rev.) Chicago: Physician's Record,* 1948. 357 pp. Price, $4.50.

The second edition of a popular book first published in 1941 has been revised. The material is well arranged and concisely written. Two new chapters on Interdepartmental Relationship and Group Studies have been added. The chapter on Organization and Management has been expanded and includes discussions of the Relationship of Medical Record Librarians to the Administrator, Work Plan, Chart of Organization, Job Analysis and Procedure Manual. The section of Microfilming and Punched Card Methods of Indexing and Cross-Indexing have been rewritten and a good topic on Medical Illustration Index has been added. There is a greatly enlarged reference of medical terminology — stems, prefixes, suffixes, abbreviations, homonyms, drug and hospital terms. A selected bibliography of medical records literature 1929–1946 is appended. A good index concludes the book.

The vast experience of the author in the medical record librarian field lends validity to this volume. It is a book that is recommended to all who are interested in elevating the standards of medical records. MAUDE MARIE HOLMES

Medical Writing—*By Morris Fishbein. (2nd ed.) Philadelphia: Blakiston,* 1948. 292 pp. Price, $4.00.

This second edition of this American classic on the writing of medical manuscripts is to be commended to all and especially to those who are beginning to write papers. This very readable book includes such important matters as style, construction of the manuscript, bibliographic material, illustrations, tables and charts, proofreading, indexing, and abbreviations of names and periodicals.

REGINALD M. ATWATER

Progress Report of the Chicago Venereal Disease Control Program—*July 1, 1943 to October 31, 1947. Chicago: Chicago Board of Health.*

This 41 page, loose-leaf, glossy paper pamphlet may fairly be described as a promotional medium of a type which is common in the commercial field but of comparatively recent vogue in public health. If a report to the stockholders of the corporation is a sound investment, then this factual accounting to Chicago's citizens should promote confidence and understanding of the city's venereal disease control program.

The section of this report devoted to the central registry describes the means by which the administrative center managed the voluminous correspondence involved in handling as many as 12,821 VD reports in 1944, as well as epidemio-

logic reports and follow-up letters to persons suspected of venereal disease and those who had been treated, reaching a peak of 13,788 letters in a 12 month period in 1946 and 1947.

The report of the epidemiology section describes the evolution of the contact-tracing methods. Because of the nature of this report, there is no detailed description of the organization of patient-interviewing and contact tracing, which were carried out by separate units of the VD division. Emphasis is laid upon the results of the use of the telegram to persuade suspected persons to come into the clinics.

In the clinic, intensive treatment center and laboratory sections, the statistical data which document the great volume of work done in Chicago during this period are presented so simply as to permit understanding without special knowledge of the program.

The record of the education section, particularly in the 45 day public education program in 1947, is particularly inspiring. A great number of educational units was distributed. The fact that 54 per cent of almost 10,000 "observations" made during the campaign were volunteer patients seems to demonstrate the value of the methods utilized.

There are four cuts and four pages of statistical charts which tend to enliven rather than burden this report. Though not a suitable source of detailed statistical material, as health department reports tend to be, the results in terms of public support of the Chicago VD program should be considerable.

JAMES H. LADE

Symposia on Nutrition, Volume I, Nutritional Anemia — *Robert Gould Research Foundation, Inc., Cincinnati,* 1948. 194 pp. Cloth.

This volume is made up of a series of eleven papers prepared for a Symposium on Nutritional Anemia. The symposium was organized by the Robert Gould Foundation and was held in Cincinnati in October, 1947, under the auspices of the College of Medicine of the University of Cincinnati.

The papers deal with different aspects of nutritional anemias, including relationships of folic acid, iron, copper, vitamin B complex, and vitamin C, to these anemias in infants, children, and adults. The presentations are correlated in such a manner that chemical, physiological, and clinical phases of nutritional anemias are stressed.

This collection of papers is a valuable addition to the literature on nutritional anemias, representing much original research on the part of the authors and their colleagues. This symposium will, no doubt, help to stimulate a better understanding among workers in this and related fields. The book was published August 15, 1948. It is distributed without cost to individuals and organizations interested in nutrition problems.

WALTER WILKINS

Convalescent Care for Children— *By Kathleen Allen, Director of Study. Chicago: National Society for Crippled Children and Adults,* 1947. 158 pp. Price is not reported.

In 1942 the National Society for Crippled Children and Adults published a *Directory of Hospitals and Institutions for Chippled Children.* Recognizing the fragmentary nature of information on convalescent services for children, and in accordance with a broad interpretation of the Society's purposes, it initiated a study of such services in 1944. A committee headed by A. L. Van Horn, M.D., then Assistant Director of the Division of Health Services, U. S. Children's Bureau, supervised the study.

The report includes detailed plans, including architects' drawings, for convalescent homes; a selected bibliography; a list of homes by states; a list

of state services for crippled children, and a list of the state member societies of the National Society. This is an excellent source book of information on convalescence for children.

MARTHA LUGINBUHL

National Conference on Undergraduate Professional Preparation in Health Education, Physical Education and Recreation — *May 16–27, 1948, Jackson's Mill, W. Va. Chicago: Athletic Institute,* 1948. 40 pp. Price, $1.00.

This was a national conference sponsored by nine national associations. The report of the conference includes the responsibilities of the colleges and universities for the preparation of teachers and leaders in health education, physical education and recreation. The conference prepared a special report which was published by The Athletic Institute and distributed by them at cost.

The *general education* that all persons attending college should have to become good citizens was outlined. The report also specified the *general professional education* needed by all teachers. The demand for teachers and leaders in these fields was also pointed out.

The major part of the report is devoted to the special professional preparation needed by teachers in health education, in physical education, and in recreation.

The functions of health teachers in the instructional program, in healthful school living, and in health services, are presented to guide professional educational institutions in the preparation of teachers and leaders so that they will be able better to meet the needs of children and youth.

FRANK S. STAFFORD

Survey Report, Department of Health, Pittsburgh, Pa. *Washington: Public Health Service, Federal Security Agency,* September, 1948. 385 pp.

The thorough study of which this is the report can be of inestimable value in obtaining more and better public health for citizens of Pittsburgh. An invitation to appraise the official health activities and make recommendations for their improvement had come from Mayor Lawrence and Dr. Norris W. Vaux, Secretary of Health of Pennsylvania. Thirteen committees of citizens, working in as many aspects of Pittsburgh's public health, reviewed the findings, and discussed the recommendations. The study was closely allied with the Federation of Social Agencies.

While the importance of health services in neighboring communities and in other agencies is fully recognized, in general the report necessarily covers the health facilities of the Pittsburgh Department of Health. The survey was made under the personal direction and supervision of Dr. Erval R. Coffey and 18 physicians, nurses, engineers, health educators, statisticians and personnel and administrative experts also participated. The Children's Bureau was responsible for the Maternal and Child Health chapter.

The usual outline for each chapter is a brief discussion of principles, the critical report of the program in Pittsburgh and recommendations for improvement. The summary of recommendations contains eight items suggesting a simplified organization, an advisory council, the active application of good personnel practices, a codification of the laws, the development of a decentralized program, coördination with other communities and agencies, and adequate funds. The chapters, of course, contain excellent and detailed consideration of each program. The chapter on mental health is a welcome addition to public health studies and is particularly well prepared.

Pittsburgh's commendable progress is well recorded in the report and substantial acceleration has already been achieved.

ROSCOE P. KANDLE

Food Plant Sanitation—*By Milton E. Parker. New York: McGraw-Hill,* 1948. 447 pp. illus. Price, $6.00.

This volume, one of a series in food technology, presents the specialized application of the principles and practices of sanitation to the food processing field. It undertakes to provide answers to some of the problems developed by the rather severe impact of the revised Food, Drug, and Cosmetic Act on a previously indifferent food industry. The philosophy and the related managerial aspects of food plant sanitation are set forth with commendable clarity. The chapter on rodent control is the least satisfactory, but two chapters on Fungicides, Germicides, and Sanitizers, and on Effective Detergency are extremely useful. For the many without training in the field of sanitation who are being forced into responsibilities for food plant sanitation programs, Professor Parker's book supplies much of the needed information, and it should be on the reference shelf of every sanitarian.

J. LLOYD BARRON

Dairy Manufacturing Processes—*By E. L. Fouts and T. R. Freeman. New York: Wiley,* 1948. 237 pp. Price, $3.50.

This book is designed basically to give the dairy plant operator and his employees practical information on the processing of milk and the manufacture of related products. The constituents of ice cream and the formulation of them are discussed in a most useful manner. Processing problems involving market milk, chocolate milk drinks, cultured buttermilk, and homogenized milk are covered. Butter making, soft cheese manufacture, and the more commonly applied tests for dairy products are included in the text.

Under each classification of product the authors have organized and arranged their material alphabetically for ready and easy reference. The book is very practical in content, avoids discussions of theory and should serve as a valuable and useful handbook for those engaged in the several phases of dairy products manufacture.

HAROLD S. ADAMS

Handbook of Dental Practice—*Edited by Louis I. Grossman. Philadelphia: Lippincott,* 1948. 417 pp. Price, $12.00.

This is an interesting and well balanced reference book on the most modern methods of the practice of dentistry. Dr. Grossman has assembled articles by some of the foremost practitioners and teachers in the field of dentistry, and has divided the *Handbook* into two parts. The first part covers diagnosis and treatment, with chapters on prevention and control of dental caries, roentgenologic interpretation, orthodontics, periodontics, endodontics, diseases of the mouth, prescription writing, anesthesia, and exodontics. The second part covers restorative dentistry, with chapters on gold inlay, amalgam, and silicate restorations, ceramic restorations, pedodontics, crown and bridge restorations, and partial and complete dentures.

It may be seen from the above listing of chapters that there is no specific section on public health dentistry and its problems. However, the first two chapters, The Prevention of Dental Caries and Control of Dental Caries, deal with the present status of prevention and control of caries from the community standpoint so that the subject has not been entirely neglected.

The Handbook is intended primarily for the practising dentist. Its object is to give him concise description of the various technics used in dental practice and an understanding of dental disease and its treatment. The reader will do well to supplement the practical details described by reference to more complete texts where necessary.

WILLIAM F. LEONARD

Technique of Treatment for the Cerebral Palsy Child—*By Paula F. Egel. St. Louis: Mosby,* 1948. 203 pp. Price, $3.50.

This able book is a valuable addition for technicians who are engaged in this challenging but as yet pioneer field of endeavor. In the care and treatment of cerebral palsy there is no unanimity of agreement on clearly defined standards and it is well to have texts giving different approaches to this problem. Miss Egel's handbook, designed primarily for technicians who carry out treatment for cerebral palsy patients under qualified physicians, fills a need as a reference for the expanding corps of trained persons working with the cerebral palsy child. The treatments outlined in the book are based on those prescribed by Dr. Winthrop M. Phelps, an outstanding authority in the field of cerebral palsy, under whom the author worked and gained invaluable knowledge which is now made available to others similarly engaged. The author's work has been limited almost exclusively to cerebral palsy children, and she possesses first-hand knowledge of the problems of those in special institutions for rehabilitation as well as those cared for at home.

The treatments as outlined in the text for the various types of cerebral palsy are presented in an orderly fashion, with an excellent summary at the end of each chapter, making the book especially valuable to those of limited experience who are encountering problems for the first time. The text outlines fifteen modalities by Dr. Phelps used in treating the different types. The exercises for conditioned motion described in the text are timed to rhymes and music and are accompanied by numerous sketches for clarification of these procedures. This section is of service to mothers and others with practical experience in the field but who are in need of guidance.

Finally the book contains an excellent chapter on equipment and apparatus which makes it a valuable guide to those responsible for organizing and developing a center for cerebral palsy children. The appendix gives a splendid account of the physical organization of the Cerebral Palsy Department in the Buffalo Children's Hospital and discusses results obtained and outlines the place of parent groups in the overall program.

The book is recommended as a valuable guide for technicians who work with cerebral palsy children.

HARRY B. SMITH

Pediatrics and the Emotional Needs of the Child—*By Helen L. Witmer, Editor. New York: The Commonwealth Fund,* 1948. 180 pp. Price, $1.50.

This booklet describes what took place during a three day conference when a group of pediatricians (most of these also administrators and teachers), child psychiatrists, social workers, and the medical staff of the Commonwealth Fund discussed the incorporation of mental health principles and knowledge into the teaching and practice of pediatrics. With the exception of four outstanding lectures on the general topic of "What have we learned about emotional growth and development?" which opened the conference, the remainder of the material is presented as an almost verbatim discussion by the participants. The discussion centered around the topics of mental health in pediatric practice, the training of medical students and pediatricians, and hospital practice and research. The book presents not only a wealth of information relative to these subjects not found in any other literature, but because this information is largely the result of personal experiences of the participants, described in their own words, something else is portrayed. The reader feels himself a part of the dynamic group experience that in the three days encompassed curiosity,

difference of opinion, resistance, identity of purpose and concept, and clearer delineation of the problems still to be solved. The book should be indispensable to teachers of medicine and nursing, directors of maternal and child health programs, and valuable to practising physicians. KENT A. ZIMMERMAN

Childhood Mortality from Rheumatic Fever and Heart Diseases—*By George Wolff. Washington: Federal Security Agency, Social Security Administration, Children's Bureau. Publication 322,* 1948. 63 pp. Price, $.25.

This study of differential mortality covers all of the states and is based on data for a three year period so as to reduce chance fluctuation.

Principal findings may be briefly summarized: (1) If one disregards accidents, rheumatic fever and heart diseases play an increasing part among the leading causes of death in children of school age and youth, particularly in the white population (tuberculosis is still a more important cause for the non-white group); (2) The non-white children show in all age groups higher mortality rates than the white children throughout the states, with few exceptions in the mountain division; (3) Sex differences are not important except in the group of adolescents from 15 to 19 years of age. At this age the white boys show higher rates than the non-white boys.

This is an excellent example of a well focused study which deserves the attention of those concerned with child hygiene and with epidemiology.

REGINALD M. ATWATER

Textbook of Public Health—*By W. M. Frazer and C. O. Stallybrass. (12th ed.) Baltimore: Williams & Wilkins,* 1948. 571 pp. Price, $6.50.

This fine standard *Textbook of Public Health* (formerly Hope and Stallybrass) has now reached its twelfth edition. The book covers the ground both for the Certificate and the Diploma in Public Health in Great Britain and is especially designed for students of that nation. It contains a great deal of splendid material that is of general utility for all public health workers throughout the world.

The text emphasizes the administrative control of environmental factors, and their relationship to health protection. It has a fine section on epidemiology and an excellent chapter on vital statistics. Housing and town planning, hospital administration, social services, and port health administration are all given due emphasis. All the standard functional divisions of the health service, such as contagious disease control, control of venereal diseases and of tuberculosis; maternity and child welfare, school medical services, mental hygiene, etc., are discussed adequately. There is also a short but excellent chapter on genetics.

The text, we believe, should be on the shelves of all public health administrators as an excellent reference, and it is useful, as well, to teachers of medical students in the field of preventive medicine. W. G. SMILLIE

Viral and Rickettsial Infections of Man—*Edited by Thomas M. Rivers. Philadelphia: Lippincott,* 1948. 587 pp. Price, $5.00.

The appearance of this excellent book is a milestone in medical bibliography emphasizing, as its editor indicates, the stabilization of knowledge concerning the problem which has been acquired as work in the field has progressed. It is the first in the United States which has attempted to bring into one volume the large body of knowledge which has accumulated concerning viral and rickettsial infections. The book is directed primarily toward practising physicians and medical students rather than to those intensively trained in the technical

aspects of virus studies. There are 37 chapters by 27 authors. The first 5 chapters lay a foundation for subsequent treatment of the individual diseases by presenting first a general statement of current concepts of infection by these agents; this is followed by general chapters concerning technics especially applied in their study—physico-chemical, serologic, the use of chick embryos, tissue culture. The remaining chapters consider practically all the infections of man in which viruses and rickettsiae are implicated. The diseases are discussed in a rather uniform manner comprising history, clinical and pathologic pictures, experimental aspects of study and the character of the agent, diagnosis, epidemiology, and treatment. This last section takes little space.

Rather than following personal bents, the authors have achieved a good objective balance and, consequently, the book is of great value to students, clinicians, or investigators. To those in public health it serves to emphasize the practical desirability of an expanding participation by health departments and their laboratories in the study of the viral and rickettsial diseases.

Bibliographies are well chosen and the index is quite adequate. The price, owing to an effective subsidy, is also remarkably attractive.

THOMAS FRANCIS, JR.

Studies in Psychosomatic Medicine. An Approach to the Cause and Treatment of Vegetative Functions —*Edited by Franz Alexander and Thomas Morton French. New York: Ronald Press,* 1948. 568 pp. Price, $7.50.

This book consists of a collection of thirty-four papers which were written by the staff of the Chicago Institute for Psychoanalysis and which deals with the emotional factors involved in disturbances of the various vegetative functions.

The first part is concerned with general principles. The attempt to single out certain diseases as psychosomatic is considered erroneous. Rather, the expression "psychosomatic" is used as a term for that approach in medicine which involves "simultaneous study and treatment of psychological and somatic functions in their mutual interrelation." The concept that organic diseases may develop as the end result of emotional disturbances is discussed.

There are chapters on the functions of the hypothalamus and the physiological effects of psychoanalytic therapy. Later papers deal with particular systems. Several give summaries of the analyses on which conclusions are based. There is a laudable reticence to regard pioneer research as conclusive. The most disappointing thing about the volume is that many papers were written a decade ago, and one wonders whether the years have confirmed or changed their conclusions.

In general, the book is highly recommended to all physicians, public health workers, and those engaged in programs for medical care. The subject is important, the approach scientific, and the exposition clear. WILLIAM A. DAVIS

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not ***all,*** *of the* ***books*** *listed.*

ADMINISTRATIVE REQUIREMENTS FOR BUILDING CODES. American Municipal Association Building Officials' Conference of America, Inc. New York: American Standards Association. 15 pp. Price, $.50.

AMERICAN STANDARD PLUMBING CODE. Spon-

sored by the American Public Health Association and American Society of Mechanical Engineers, 1949. 77 pp.

BEING A GOOD PARENT. James L. Hymes, Jr. New York: Bureau of Publications, Teachers College, 1949. 52 pp. Price, $.60.

BIOCHEMICAL PREPARATIONS, VOL. I. Herbert E. Carter. New York: Wiley, 1949. 74 pp. Price, $2.50.

BACKGROUNDS OF SOCIAL MEDICINE. Papers Presented at a Round Table at the 1947 Annual Conference of the Milbank Memorial Fund, November 19–20, 1947. New York: Milbank, 1947. 200 pp. Price, $1.00.

COMICS, RADIO, MOVIES AND CHILDREN. Josette Frank. New York: Public Affairs Committee, 1949. 32 pp. Price, $.20.

DIRECTORY OF STATE MERIT SYSTEMS. Washington, D. C.: Federal Security Agency, Division of State Merit System Services, 1949. 26 pp.

FIELD OF RECREATION, THE. Walter L. Stone. New York: William-Frederick, 1949. 41 pp. Price, $1.00.

FILM AND EDUCATION. Edited by Godfrey M. Elliott. New York: Philosophical Library, 1948. 575 pp. Price, $7.50.

FUN IN THE WATER. Thomas Kirk Cureton, Jr. New York: Association Press, 1948. 129 pp. Price, $4.00.

GUIDE TO THE TEACHING OF HEALTH IN THE ELEMENTARY SCHOOL (Health Education Series Bulletin No. 2). Albany, N. Y.: University of the State of New York. 215 pp.

HOME RULE FOR AMERICA'S CITIES. Rodney L. Mott. Chicago: American Municipal Assn., 1949. 68 pp. Price, $1.50.

HOW TO TELL YOUR CHILDREN ABOUT SEX. James L. Hymes, Jr. New York: Public Affairs Committee, 1949. 32 pp. Price, $.20.

IN THE NAME OF HUMANITY. Joseph Lewis. New York: Eugenics Publishing, 1949. 156 pp. Price, $2.00.

INSTRUMENTS, LABORATORY SPECIALTIES AND TEACHING AIDS FOR THE MEDICAL AND ALLIED SCIENCES. Catalog 104. New York: Clay-Adams. 164 pp.

MARINE'S LEGACY, A. Grayson D. Williams. New York: William-Frederick, 1949. Price, $1.00.

MEDICOLEGAL PROBLEMS SERIES II, SYMPOSIUM ON. Edited by Samuel A. Levinson. Philadelphia: Lippincott, 1949. 272 pp. Price, $5.00.

NURSING OF THE SICK 1893. Isabel A. Hampton and others. New York: McGraw-Hill. 1949. 209 pp. Price, $3.50.

OUTLINE FOR A BASIC COURSE IN HEALTH EDUCATION FOR TEACHER TRAINING IN MONTANA, AN. Sponsored by University of Montana, State Department of Public Instruction, State Board of Health, Montana Extension Service, State Department of Public Welfare, W. K. Kellogg Foundation. Helena: Montana State Board of Health. 137 pp.

PERSPECTIVES IN MEDICINE. The March of Medicine, 1949. 6 Lectures to the Laity on Frontiers of Medical Research. New York: Columbia University Press, 1949. 154 pp. Price, $2.50.

PINEVILLE HIGH MEETS THE CHALLENGE. A Store of the Effects of Hookworm and Ways of Treating and Preventing the Disease. Dorothy C. Stephens. Gainesville, Fla.: University of Florida, 1948. 54 pp. Price, $.15.

PROCEEDINGS OF THE FOURTH INTERNATIONAL CONGRESSES ON TROPICAL MEDICINE AND MALARIA. Volume I. Washington: U. S. Gov. Ptg. Office, 1949. 946 pp.

PUBLIC HEALTH IN THE WORLD TODAY. Edited by James Stevens Simmons, with a Foreword by James Bryant Conant. Cambridge, Mass.: Harvard University Press, 1949. 332 pp. Price, $5.00.

READING IS FUN. Developing Children's Reading Interests. Roma Gans. New York: Bureau of Publications, Teachers College, 1949. 51 pp. Price, $.60.

RODDY THE RAT. George S. Bote (rev. ed.) Gainesville, Fla.: University of Florida, 1949. 72 pp. Price, $.15.

SAFETY IN SPORTS. Don Cash Seaton. New York: Prentice-Hall, 1949. 401 pp. Price, $4.50.

SEWER RENTALS IN PENNSYLVANIA MUNICIPALITIES. State College, Pa.: Pennsylvania Municipal Publications Service, 1949. 45 pp. Price, $1.00.

SCHOOL HEALTH EDUCATION. Delbert Oberteuffer. New York: Harper, 1949. 393 pp. Price, $3.25.

TEACHER'S GUIDE FOR HEALTH EDUCATION. Morey R. Fields, and Avis E. Edgerton. Brooklyn, N. Y.: Chemical Publishing, 1949. 489 pp. Price, $6.75.

U.N.R.R.A. IN CHINA. 1945–1947. Washington, D. C.: U.N.R.R.A., 1948. 377 pp.

VITAL STATISTICS OF THE UNITED STATES 1946. Parts I and II. Washington: U. S. Gov. Ptg. Office, 1948. Part I 219 pp. Price, $2.25. Part II 647 pp. Price, $3.75.

THE FOLLOWING REPORTS HAVE BEEN RECEIVED

ALABAMA, ANNUAL REPORT OF THE STATE DEPARTMENT OF HEALTH 1947. Montgomery, Ala.: State Department of Health. 241 pp.

ATOMIC ENERGY DEVELOPMENT 1947–1948. FIFTH SEMIANNUAL REPORT. Washington: Gov. Ptg. Office, 1949. 213 pp. Price, $.45.

GEORGIA WARM SPRINGS FOUNDATION. ANNUAL REPORT 1948. Warm Springs, Ga.: Georgia Warm Springs Foundation. 15 pp.

NEW JERSEY STATE DEPARTMENT OF HEALTH. REPORT June 1, 1948, March 1, 1949. Trenton, N. J.: State Department of Health, 1949. 11 pp.

NORTHWEST FLOODS, THE. OFFICIAL REPORT OF RELIEF OPERATIONS. Washington: American National Red Cross. 38 pp.

PETER BENT BRIGHAM HOSPITAL. 35th Annual Report 1948. Boston, Mass.: Peter Bent Brigham Hospital, 1949. 122 pp.

PROCEEDINGS OF THE 47TH ANNUAL CONFERENCE. Surgeon General, U. S. Public Health Service and Chief, Children's Bureau of the Federal Security Agency with State and Territorial Health Officers, State Mental Health Authorities, State Hospital Survey and Construction Authorities. November 15 and 17, 1948. Washington: Federal Security Building. 123 pp.

PUBLIC HEALTH IN EAST YORK-LEASIDE, CANADA. ANNUAL REPORT 1947. East York, Can.: Department of Health. 20 pp.

REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER, 1947. London: Staples Press Ltd., 1948. 101 pp. Price, 2s. 10d.

TUBERCULOSIS. BIBLIOGRAPHY ON STREPTOMYCIN. Geneva Switzerland: World Health Organization, 1949. 100 pp.

WINNIPEG, MAN. REPORT OF THE MEDICAL HEALTH OFFICER, 1948. Winnipeg, Manitoba, Can.: City Health Department. 26 pp.

WASHINGTON INDUSTRIAL HYGIENE ANNUAL REPORT 1947. Seattle, Wash.: Department of Health. 10 pp.

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

First Time—What soothing words could be added by way of annotation to the ominous threat hidden in the title that follows?

ANON. Women Now Outnumber Men. Stat. Bull. (Met. Life Ins. Co.) 30, 2:4 (Feb.), 1949.

"Proud in Humility" — Virtual elimination of deaths from the four common communicable diseases of childhood is now in sight. So concluded a study of the reduction of mortality from scarlet fever, whooping cough, diphtheria, and measles. Health people would find more solid satisfaction in their contributions to this happy ending if reductions in scarlet fever deaths were not much greater than those from the two diseases against which they offer prophylactic measures—whooping cough and diphtheria.

ANON. Recent Gains against the Childhood Diseases. Stat. Bull. (Met. Life Ins. Co.) 30, 2:1 (Feb.), 1949.

Hospitalization Has Helped—Infant deaths have dropped to a third of the 1915 rate (100 per 1,000 births in those days). However, the present low rate for the whole country conceals some scandalously high extremes. In 5 states the non-white deaths still exceed the 1915 general rate.

ALTENDERFER, M. E., and CROWTHER, B. Relationship Between Infant Mortality and Socio-Economic Factors in Urban Areas. Pub. Health Rep. 64, 11:331 (Mar. 18), 1949.

On Our Way—We are progressing in our American studies of the efficacy of BCG. In the New York State plan immunization is being extensively used with tuberculin negative reactors who are occupationally exposed — nurses, medical students, hospital personnel.

BIRKHAUG, K. E. New Developments in BCG Vaccination. New York State J. Med. 49, 4:401 (Feb. 15), 1949.

The Order Changeth—You'll have to admit that at least one medical journal opens its pages to the other side of the story. In this one a proponent "presents astutely and temperately certain arguments in favor of compulsory

health insurance." (The quote is from an accompanying editorial.)

BUTLER, A. M. Public Financing of Medical Education, Research, Health and Medical Care. New England J. Med. 240, 9:324 (Mar. 3), 1949.

Hair-Raising Nostrums—Of course you're an authority on scalp health! Aren't you in the health business? My advice to you is to be prepared to keep your friends out of the clutches of the hair experts.

COMMITTEE ON COSMETICS. Hair and Scalp Treatments and Preparations. J.A.M.A. 139, 13:840 (Mar. 26), 1949.

"Count Not the Day Lost——"—Do you know that phorology is the study of disease carriers? I didn't either until this provocative paper drove me to the dictionary. The student of the science who wrote it proposes (posthumously) two useful epidemiological terms.

FORSBECK, F. C. "Infection Unit" and "Index of Aggregation." Pub. Health Rep. 64, 11:343 (Mar. 18), 1949.

Never Underestimate the (Will) Power of a Woman—It seems there is more to preparing for babies born without anesthetics than just pep talks. Mothers have to be taught how to do the job. Properly indoctrinated and trained, 9 out of 10 could be—and were glad to be—delivered while awake.

GOODRICH, F. W., JR. Experience with Natural Childbirth. Pub. Health Nurs. 41, 3:122 (Mar.), 1949.

Noses Worse Than Throats—Have you, too, the sort of mind that relishes facts of no likely use to you? Then you'll tuck away happily this finding that when nasal—not throat—carriers of hemolytic streptococci increase then an epidemic is likely to be on its way.

HAMBURGER, M., JR., *et al.* The Significance of Nose to Throat Carrier Ratios in the Epidemiology of Hemolytic Streptococcal Infection. Am. J. Hyg. 49, 2:140 (Mar.), 1949.

Service Plus Research—Because we have no definite measure of mass x-ray as a case finding method, a county-wide survey was undertaken in an attempt to find the answers, some of which cannot be known until time has elapsed to discover new cases among examined and unexamined groups.

COMSTOCK, G. W., *et al.* Tuberculosis Studies in Muscogee County, Georgia. Pub. Health Rep. 64, 9:259 (Mar. 4), 1949.

Trace Elements—References to review articles appearing in formal series have seldom been included in this bibliography but the self-imposed rule is bent this time to permit the mention of an excellent paper. Most of what is known, or maintained, or even guessed about the role of fluorine in dental health is so usefully and clearly set forth that you can't afford to miss it.

MCCLURE, F. J. Fluorine and Other Trace Elements in Nutrition. J.A.M.A. 139, 11:711 (Mar. 12), 1949.

First They Bought a Projector—How a visual-aid plan for at-work training of public health nurses grew up into a community health educational film service is provocatively told. The two years' experience has been challenging, alive, and fun, the reporter alleges.

MOORE, W. L. Adventuring with Visual Education. Pub. Health Nurs. 41, 3:134 (Mar.), 1949.

Female of the Species—Among a group of four thousand-odd immunized clerks, reactions to influenza vaccines were not sufficiently numerous nor severe to be a deterrent to future efforts. One finding will give you something to mull over: reactions were twice as common and four times as severe among the "females." Egg-sensitive individuals were excluded, of course.

SADUSK, J. F., JR., *et al.* A Comparative Study of Reactions Following Inoculation with Red Cell Elution and Sharples Centrifuged Influenza Vaccines. Am. J. Hyg. 49, 2:148 (Mar.), 1949.

Go-Getters, Ltd. — An appalled British V.D. Officer writes a "you'll-never-believe-this" sort of account of our amazing case finding antics. Please, please do your best to hunt out this delightfully objective reporting. "We are certainly not ready," he concludes, "if we ever will be, for a venereal disease 'police,' but case-finding . . . might pay dividends."

WILLCOX, R. R. Venereal Disease Case-Finding—the American Way. Pub. Health 62, 5:99 (Feb.), 1949.

Gets Results—Here is an analysis of the relative effectiveness of various case finding procedures in bringing in for treatment 2,400 new cases of syphilis. All this happened in an ordinary control program such as any health department might put on.

WRIGHT, J. J., and SHEPS, C. G. Reports of the North Carolina Syphilis Studies. J. Ven. Dis. Inform. 30, 2:35 (Feb.), 1949.

MOTION PICTURE REVIEWS

For more than a year the Committee on Motion Picture Films of the A.P.H.A. Health Education Section has been studying the problem which health educators and many other health workers continually face in producing and using motion picture films. A recent result of this committee's work was the publication in the February issue of the *Journal* of a bibliography of film catalogs. Reprints of this bibliography are available and it is expected that it will be brought up-to-date from time to time.

The next step in the committee's program is the plan for regular publication in the *Journal* of new film titles with a brief description and reviews of current films which seem to be of outstanding and general interest. The Editorial Board of the *Journal* has approved this recommendation and has set aside space up to a page a month for this purpose. The committee asks that all those who produce new films advise the Association office when these films are ready for release. Information should include running time, whether in color or black and white, whether in sound or silent, width of film, name of producer, intended audience, and terms on which it may be secured and where it may be secured. With this information at hand, the committee will, from time to time, request prints of films which may be reviewed by a team of qualified reviewers. Reviews accepted by the *Journal* for publication will represent the opinions of the reviewers and not necessarily that of the committee or the Association.

The committee expects that reviews will be confined to pictures intended for popular health education or for instruction of various types of public health workers. It does not expect to include medical teaching films, other medical films, or other scientific films primarily designed for professional audiences outside of the public health field. The reviews will deal only with new films as they are produced. Reviews and listings will embrace only those films which have been released since January 1, 1949. Further inquiries concerning the plan for listing and review of films and other aspects of the work of the film committee may be addressed to Mr. Kenneth Widdemer, *Chairman* of the Section Committee on Motion Picture Films, American Public Health Association, 1790 Broadway, New York 19, N. Y.

ASSOCIATION NEWS

SEVENTY-SEVENTH ANNUAL MEETING
AMERICAN PUBLIC HEALTH ASSOCIATION
NEW YORK, N. Y., OCTOBER 24–28, 1949

FELLOWSHIP IN THE AMERICAN PUBLIC HEALTH ASSOCIATION

The grade of Fellowship was established in the American Public Health Association in 1922. Professional workers in public health are eligible for election as Fellows under certain conditions and as an indication that they have achieved a recognized professional standing. As of January 1, 1949, the total membership of the Association was 11,102, including 2,093 Fellows, or almost 19 per cent of the total.

Questions are frequently asked regarding the requirements for Fellowship and the following statement outlines the provisions of the By-laws governing qualification and election.

Persons who have been members of the Association for at least two years and who have reached their 30th birthday are eligible to apply if, in their opinion, they meet the conditions of one or more of the six clauses in the By-laws defining "an established professional standing." These six possible approaches are as follows:

a. A person who has rendered acceptable service for two or more years in a responsible public health position and who has been awarded in course a degree of Doctor of Public Health, Doctor of Science in Public Health, Doctor of Philosophy in Public Health, Doctor of Medicine, with at least one year of graduate study in public health in a university, Master of Public Health, Diploma in Public Health, or other equivalent degrees, according to standards approved by the Executive Board of the American Public Health Association.

b. A person who has been awarded in course an academic or professional degree involving training in public health and who has been regularly engaged in health work for at least five years, having rendered meritorious service as a health officer or in responsible charge of work in either a public or private health agency.

c. A person who has done notable original work in public health or preventive medicine of a character to give him a recognized standing.

d. A person regularly engaged in health work for at least five years, who has given evidence of special proficiency, who has attained a recognized standing.

e. A teacher of public health or one of its constituent sciences who has attained distinction as an expounder of the principles of public health or its constituent sciences. Such a teacher shall have had at least five years' experience as a teacher of public health subjects. Any years of experience as defined in paragraphs "b" and "d" that the applicant may have had shall be considered the equivalent of the same number of years' experience as a "teacher."

f. A person not covered by the above, who has made substantial contributions to public health work in his chosen branch, who has attained a recognized professional standing.

Persons wishing to apply should request a Fellowship application blank from the American Public Health Association Membership Department, 1790 Broadway, New York 19, N. Y. Applications are accepted up to August 1 each year for consideration by the Governing Council at the fall meeting. It is important to make clear that mem-

bers themselves should take the initiative in submitting such applications. Neither the Sections nor the A.P.H.A. administrative staff are authorized to solicit applications. This means that, although over 3,000 persons have been duly recognized with this grade of affiliation since 1922, there are other persons well qualified who have never initiated the process of applying for Fellowship. It should be clear that members should not await action by others if they wish to attain Fellowship. It is necessary and proper for them to take the first step.

An application for Fellowship requires sponsorship by two Fellows of the Section with which the applicant desires to be affiliated. These personal signatures are to be obtained by the applicant before submitting the completed application. The A.P.H.A. office will assist, on request, in determining the Section with which prospective sponsors are affiliated. Applications from persons not wishing to be identified with a particular Section and requesting unaffiliated Fellowship may be sponsored by any two Fellows of the Association.

When properly sponsored and otherwise completed, the application is sent to the A.P.H.A. office, after which the list of persons applying is published in the *American Journal of Public Health*, usually in the September issue, but in any case not less than 15 days before the date for the Annual Meeting. An established routine is followed for review by the Section Councils (unaffiliated applications are reviewed by the Executive Board) and by the Committee on Eligibility. This Standing Committee of the Association is made up of one Fellow from each of the 13 Sections, plus a Chairman elected by the Executive Board. This group is under instructions from the Governing Council to examine each application in accordance with the provisions of the clause of the By-laws chosen by the applicant, and to apply the criteria with precision in each case. Final election is by the Governing Council at the second meeting at each annual session.

The privileges of Fellowship include eligibility to serve as an officer of the Association or one of the Sections, Chairman of an Association or Section Committee (over one hundred in number), a member of one of the four Standing Committees, a member of the Governing Council or Executive Board, and the right to vote for the elective members of the Governing Council and on amendments to the Constitution. Some Civil Service and merit system records depend upon Fellowship in the American Public Health Association as an achievement deserving recognition in applicants.

The dues of Fellows are $12.00 annually, and include a subscription to the *American Journal of Public Health* and other services to which members are eligible. Life Membership is available at $200, covering all future annual dues.

Applications for Fellowship to be considered at the 77th Annual Meeting in New York, N. Y., the week of October 24, should be filed with the Association as soon as they are completed, and in any case not later than August 1. For further information, address the Membership Department, American Public Health Association.

A.P.H.A. membership application blank on page XXXIX

THE 77TH ANNUAL MEETING

New York, N. Y., October 24–28, 1949

Hotel Reservation Form

	Rooms with Bath	
Hotels	*Singles*	*Doubles*
Belmont Plaza	$4.00–$7.00	$6.00–$9.00
Governor Clinton	3.50– 5.75	5.50– 9.50
Henry Hudson	3.50– 5.00	6.00– 8.00
Lincoln	4.00– 7.00	6.00– 9.00
Martinique *	3.00– 5.50	5.00– 8.00
McAlpin *	4.00– 7.00	6.50–10.00
New Yorker	4.00–10.00	7.00–13.50
Roosevelt	3.50–10.00	8.00–14.00
Statler	4.00– 7.50	6.50–10.00
Taft *	3.75– 7.00	6.50– 9.00
Tudor	3.00– 5.00	5.00– 9.00
Wentworth *	4.00– 6.00	6.00– 8.00

* The starred hotels which are listed above also provide rooms without baths at the following rates:

	Singles	*Doubles*
Martinique	$2.00–$3.50	$4.00–$5.00
McAlpin	3.00– 3.50	5.00– 5.50
Taft	3.00– 3.50	5.00
Wentworth	3.00– 4.50	5.00– 6.00

MAKE ROOM RESERVATIONS EARLY

APPLICATION FOR HOTEL ACCOMMODATIONS
AMERICAN PUBLIC HEALTH ASSOCIATION
77th Annual Meeting and Meetings of Related Organizations, New York, N. Y.
October 24–28, 1949
(Note that the Meeting opens Monday, October 24 at 9:30 A.M.)

Please make hotel reservation as indicated below:
Double Room with Bath at $..... per day for ..... persons
Single Room with Bath at $..... per day for ..... persons
Double Room without Bath at $..... per day for ..... persons
Single Room without Bath at $..... per day
Suite at $..... per day for ..... persons

ARRIVING: OCTOBER .... Hour ..... LEAVING: OCTOBER .... Hour .....
Please print (or type) names and addresses of all occupants including persons making reservation.

NAME STREET ADDRESS CITY STATE

.....
.....
.....

Name .....
Street Address .....
City ..... State .....

Mail Direct to the Hotel of Your Choice.

RESERVATIONS WILL BE HELD UNTIL 6:00 P.M. ONLY, UNLESS
THE HOTEL IS NOTIFIED OF LATE ARRIVALS

NOMINATIONS FOR THE GOVERNING COUNCIL

The Association Nominating Committee for Governing Council Members reports the following nominations for the Governing Council, in accordance with the new By-laws which call for publication of these names to the Fellowship not less than five months before the Annual Meeting. The Nominating Committee is composed of one Fellow elected by each Section and a Chairman appointed by the Executive Board. The Chairman is George T. Palmer, Dr.P.H., Consultant in Public Health Administration with the California State Department of Public Health, and the other members are: Donald B. Armstrong, M.D., Public Health Education Section; David B. Ast, D.D.S., Dental Health Section; Walter H. Brown, M.D., School Health Section; William H. Cary, Jr., Engineering Section; Halbert L. Dunn, M.D., Statistics Section; Helen F. Dunn, Public Health Nursing Section; Marcia S. Hays, M.D., Maternal and Child Health Section; Ethel A. Martin, Food and Nutrition Section; C. A. Perry, Sc.D., Laboratory Section; Edward A. Piszczek, M.D., Health Officers Section; Dean W. Roberts, M.D., Medical Care Section; James G Townsend, M.D., Industrial Hygiene Section; and Milton V. Veldee, M.D., Epidemiology Section.

The By-laws further provide that "upon the petition of twenty-five Fellows, the Nominating Committee shall add the name of any Fellow to the nominees selected by it, provided such petition is received not less than three months before the Annual Meeting." This means that names will be added to the following list if properly supported by petition and received in the Administrative Office not later than July 24.

The change in the election routine which was approved at the Boston Annual Meeting calls for a mail vote on the elective councilors. This is the first time in the history of the Association that all Fellows will have the privilege of voting for Governing Council members regardless of attendance at the Annual Meeting, and it is hoped that every Fellow will exercise this right to vote. Official ballots containing the names of the following nominees and any added by petition will be mailed to all Fellows early in August, and Fellows will be allowed up to September 24 to return their marked ballots. Immediately after this date Tellers appointed by the President will canvass the vote on the elective councilors and will report the result to the Governing Council at its first meeting during the New York City Annual Meeting. The ten nominees receiving the highest number of votes on the ballots cast by the Fellows will be declared elected to fill the three-year terms expiring in 1952.

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Donald A. Dukelow, M.D.
American Medical Association
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Marietta Eichelberger, Ph.D.
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Samuel M. Wishik, M.D.
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The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

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A MESSAGE FROM THE CIRCULATION DEPARTMENT

Certain 1948 issues of the *American Journal of Public Health* are needed to complete sets for members and subscribers. The *Journals* that are in short supply are January, March, August, September, and October. It will be appreciated if members or subscribers who can spare any of these issues will mail them collect, addressed as follows: Circulation Department, American Public Health Association, 1790 Broadway, New York 19, N. Y.

EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

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Sanitary Engineer, city health department near Chicago. Staff includes 7 sanitarians. Salary range $4,000 to $4,800 depending upon training and experience. Write **Box A-56,** Employment Service, A.P.H.A.

Public Health Nursing Supervisor for generalized program in official health agency. Salary range $3,500 to $4,200 depending upon qualifications and training. Community near Chicago; pension, travel expenses; paid sick leave. Write **Box A-57,** Employment Service, A.P.H.A.

Associate Executive Secretary for health council in midwestern city. Graduation from accredited university, advanced study in health field, executive experience in health field required. Experience in community organization desired. Salary range $3,500 to $5,400 with annual increment plan. Write **Box A-58,** Employment Service, A.P.H.A.

Chief Public Health Nurse for City-County Health Department, staff of fifteen nurses. Salary $275–$350 monthly with possible increase in near future. Write: Dr. Fred Long, Director of Health, Lincoln-Lancaster County Health Department, 935 R Street, Lincoln, Nebr.

District Health Officer, Thurston-Mason District Health Department, Olympia, Wash. Salary range $7,440–$9,120, plus 8¢ per mile traveling expenses for use of personal car. Minimum requirements, three years' professional medical experience and the equivalent of one year graduate study in public health. Write: Dr. J. A. Kahl, 1412 Smith Tower, Seattle, Wash.

Assistant Director, State Bureau of Local Health Services. Salary $6,300–$7,900. Write **Box A-59,** Employment Service, A.P.H.A.

Clinical Laboratory Technician capable of performing laboratory examinations under the direction of a clinical pathologist. Salary range from $150 to $250 monthly depending on qualifications. Write: Dr. George O. Hartman, 20 East Ochoa, Tucson, Ariz.

Medical Technician in approved modern 100 bed general hospital, Southwest Oklahoma, excellent location, 40 hour week, double pay for holidays, one month paid vacation yearly, paid sick leave, automatic yearly promotions, disability compensation coverage, retirement system. Write Box 139, Lawton, Okla.

Qualified Public Health Nurses: Greene County. Official agency; generalized program. Salary $2,500 plus 8¢ mileage allowance; yearly increment for five years; four weeks vacation; 38 hour week, sick leave, retirement system. State experience and postgraduate study. Write: Ernest Canniff, Chairman, Public Health Committee, Court House, Catskill, N. Y.

Three Qualified Public Health Nurses for Marion County Health Department, Salem, Ore. Salary $250 per month to start; transportation furnished. Permanent. Write: Harold M. Erickson, M.D., State Health Officer, 1022 S. W. 11th Avenue, Portland 5, Ore.

Experienced Bacteriologist for city public health laboratory to perform water and milk laboratory examinations and general bacteriological and serological laboratory work. Salary range $325 to $350 monthly. Write: F. A. Musacchio, M.D., City Health Department, City Hall, Hammond, Ind.

Associate Bacteriologist, public health, Master's degree. Two years postgraduate experience. Salary range $326 to $370 per

month. Permanent position under effective civil service. Write: Director of Laboratories, Laboratory Section, St. Louis Health Division, Room 32, Municipal Courts Bldg., St. Louis, Mo.

Rural Training Center Personnel: Nursing, Sanitation, and other personnel interested in positions in a Rural Training Area apply to: Roland R. Cross, M.D., Director, State Department of Public Health, Springfield, Ill.

Four District Health Officers. Salary $5,760 to $6,960 at present, with probable maximum of $8,000 soon. Write to: Roland R. Cross, M.D., Director, Illinois Department of Public Health, Springfield, Ill.

Dental Hygienist: Assist dentist in dental health program. Work exclusively with children. Salary to start $2,500. Write: Dr. Junius B. Johnson, City-County Health Department, City Hall, Kalamazoo, Mich.

Professor and Chairman of department of Civil Engineering, Eastern University. Recognized specialist in Sanitary Engineering, with teaching and administrative experience preferred. Write: **Box A-60**, Employment Service, A.P.H.A.

Public Health Nurse Supervisor—Minimum requirements: completion of a program of study in public health nursing meeting the requirements of the N.O.P.H.N. and extending throughout at least one academic year, with bachelor's degree preferred. Salary range, $3,340–$3,808; 40 hour week; retirement plan; liberal vacation and sick leave. Write: Personnel Department, City Hall, Jackson, Mich.

ANNOUNCEMENT

Civil Service Commission—County of Wayne

The Civil Service Commission, Detroit, Mich., announces an examination for Public Health Nurses. Applicants must be citizens of the United States. They must have graduated from an accredited school of nursing, must be eligible for registration as nurses in the State of Michigan, and have a certificate in Public Health Nursing or its equivalent. Salary starts at $3,360 with annual increases to $3,720. The Commission will attempt to arrange convenient examination centers for those people who apply. Write to: Civil Service Commission, County of Wayne, 2200 Barlum Tower, Detroit 26, Mich.

POSITIONS WANTED

Public Health Physician, 39, M.D., M.P.H. from leading universities, twelve years full-time public health experience covering both small and large units, five years' teaching experience in medical school, now assistant professor of Public Health and Preventive Medicine. Will consider desirable opening at salary consistent with background. Write **Box Ph-12**, Employment Service, A.P.H.A.

Health Educator, R.N., M.S., female, single, 15 years' college health teaching and considerable experience in administration and organization in nonofficial agencies; experienced public speaker; some creative writing. Interested in position involving administration, organization, education, and creative writing in college or community organization, voluntary or public agency. Write **Box HE-12**, Employment Service, A.P.H.A.

Sanitary Engineer or Public Health Engineer, 37; B.S. in Sanitary Engineering, 14 years' experience (3 with a city Engineering Department; 5 with Sanitary Corps U. S. Army; 6 with a rural health department). Prefer Southern States. Write **Box E-10**, Employment Service, A.P.H.A.

Sanitarian—B.A. in chemistry, male, 27, 2 years' experience in industrial chemistry, veteran (Army CWS), 1½ years' public health experience in environmental sanitation, including milk control and food and drug control. At present employed by state health department of southern state. Desires position as sanitarian with city or county health department in Southern California. Minimum salary: $2,700–$3,000 depending on location. Write **Box S-1**, Employment Service, A.P.H.A.

Public Health Physician, Spanish, with more than 15 years of employment and experience in all problems of public health, including tropical pathology, desires University position (teaching or research) or in public health service (Epidemiology). Write **Box Ph-13**, Employment Service, A.P.H.A.

Advertisement

All communications should be sent to Burneice Larson, Medical Bureau, Palmolive Building, Chicago 11, Ill.

Opportunities Available

WANTED—(a) Public health physicians for administrative positions; city and county health departments; $8,000-$10,000; East. (b) Director; maternal, child health and crippled children's services; West. (c) Director, city-county health department; staff of fourteen; town of 45,000; Middle West. (d) Pediatrician to head school health program; town of 60,000; Pacific Northwest; $8,000. (e) Director, student health; coeducational college; 3,000 students; university medical center; East; $8,500-$10,000. **PH5-1** Burneice Larson, Medical Bureau, Palmolive Building Chicago.

WANTED—(a) Health educator; Master's required; Southern California. (b) Director, public health laboratory; Ph.D. required; $4,800-$5,400; Middle West. (c) Health educator; Master's in public health desirable; New England division of national organization. (d) Sanitary engineer to supervise all sanitation with respect to food, water, milk, other sanitation problems; town of 100,000 near Chicago; well staffed department. (e) Health educator; duties include preparing literature in field of health; headquarters, Chicago. (f) Health education coördinator; county health department; California. **PH5-2** Burneice Larson, Medical Bureau, Palmolive Building, Chicago.

WANTED—PUBLIC HEALTH NURSES FOR FOLLOWING—(a) To direct visiting nurse association, long established, university medical center; staff consists of five supervisors and twenty-eight field staff. (b) To direct school health program; public school system; staff of fourteen nurses, 16,000 children; Middle West. (c) To serve as public health coördinator; voluntary hospital of more than 500 beds; vicinity New York City. (d) To direct public school program; residential town near Chicago. (e) Supervisory position; Master's degree preferred; Alaska. (f) To direct generalized nursing program including school health services; city health department; $4,500-$5,000. (g) Supervisory position; generalized program operated under United States auspices in South America. (h) To direct division, public health nursing; generalized program; Chicago area; $4,200. **PH5-3** Burneice Larson, Medical Bureau, Palmolive Building, Chicago.

Advertisement

Opportunities Wanted

Public health administrator; M.D., M.P.H., Harvard; in 1939 reorganized city health department and remained as its director; simultaneously has held important faculty appointment; for further information, please write Burneice Larson, Medical Bureau, Palmolive Building, Chicago.

Sanitary engineer; B.S., Civil Engineering; several years, sanitary engineer, tropics; past four years, chief, engineering division, county department of health, serving population of 150,000; for further information, please write Burneice Larson, Medical Bureau, Palmolive Building, Chicago.

Statistician; M.S., Ph.D. degrees; five years' teaching experience; past several years, director, vital statistics, division city health department; for further information, please write Burneice Larson, Medical Bureau, Palmolive Building, Chicago.

Health educator; Master's degree, Public Health (Eastern university); four years, health educator, county health department; three years, health coordinator, liberal arts college; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago.

Public health nurse is available for administrative position; graduate of five year public health nursing course; B.S., Simmons; M.P.H. Health education, eastern university; three years, director health education, state university; eight years' executive experience in public health nursing; for further information, please write Burneice Larson, Medical Bureau, Palmolive Building, Chicago.

NEWS FROM THE FIELD

DR. MARTHA ELIOT TAKES WHO POSITION

It was announced in Washington and Geneva on April 16 that Martha M. Eliot, M.D., Associate Chief of the U. S. Children's Bureau, had resigned to accept appointment as Assistant Director General of the World Health Organization, United Nations, in Geneva.

Dr. Eliot, who has served the Children's Bureau for twenty-five years, expected to assume her new position June 1. The appointment was made by Brock Chisholm, M.D., Director General of WHO. Dr. Eliot has been among the group responsible for the original planning of WHO, having been a member of the United States Delegation at the original conference and one of the signers of the original Constitution. In her new position she will be responsible for the Department of Operations, including the supply of experts and demonstration teams and the supervision of fellowships in the program of WHO directed against tuberculosis, malaria, venereal diseases, maternal and child health, etc.

At a press conference Dr. Eliot recalled that in the twenty-five years which she has served the Children's Bureau the infant mortality of the United States had dropped 55 per cent and that maternal mortality had dropped 79 per cent.

Dr. Eliot is immediate Past President of the American Public Health Association and was a recipient in 1948 of a Lasker Award for achievement in public health administration.

DR. LEONA BAUMGARTNER NAMED ASSOCIATE CHIEF OF THE CHILDREN'S BUREAU

On April 16 the appointment of Leona Baumgartner, M.D., Assistant Commissioner of Health of the New York City Department of Health, as Associate Chief of the U. S. Children's Bureau, Washington, succeeding Martha M. Eliot, M.D., resigned, was announced. Dr. Baumgartner's appointment was to be effective June 1 for a period of six months, during which time she will be on leave from New York City, with the possibility that the appointment may be permanent.

Dr. Baumgartner holds the M.D. and Ph.D. degrees from Yale University. She has previously served as District Health Officer and as Director of the Bureau of Child Health of the New York City Department of Health. She is Chairman of the A.P.H.A.'s Association Committee on Child Health and is a member of the Executive Board, A.P.H.A.

NATIONAL HEALTH COUNCIL MEETS

The National Health Council met in 29th annual session at the Hotel Roosevelt in New York City on March 25. Basil O'Connor, President of the American National Red Cross and the National Foundation for Infantile Paralysis, was the main speaker at the luncheon attended by nearly 500 persons. In his subject, "America's Potential for Health," he outlined the great progress that might be made in developing positive health for all the people through the use of local resources and initiative. Said he, "America's potential for health is America's potential for peace."

Other speakers included C. L. Williams, M.D., Assistant to the Surgeon General, who brought greetings from Surgeon General Leonard A. Scheele of the U. S. Public Health Service, and Vlado A. Getting, M.D., Health Commissioner of Massachusetts, in behalf of the Association of State and Territorial Health Officers.

At the business meeting preceding the luncheon the following officers were reëlected:

President, Philip R. Mather
Vice-President, Ernest L. Stebbins, M.D.
Treasurer, Haven Emerson, M.D.
Assistant Treasurer, Franklin M. Foote, M.D.

James E. Perkins, M.D. was elected Secretary.

The business meeting also elected 4 organizations to Council membership—the American Medical Association, the National Foundation for Infantile Paralysis, The American Physical Therapy Association, and the National Multiple Sclerosis Society, the last two as associate members.

The delegates approved revision of the by-laws by permitting broader representation among the membership of national organizations concerned with health.

An increase in the Board of Directors from 31 to 55 was voted. Twenty-one new directors and 8 delegates-at-large were elected.

The recently appointed executive director of the Council, Thomas D. Dublin, M.D., reported 1948 activities and 1949 plans to the delegates and the Board of Directors. "The weakest link in the chain of health services today is the lack of adequately trained professional and technical health personnel in sufficient numbers to meet the need," said he, in recommending increased effort at recruitment and training of public health workers. Dr. Dublin paid tribute to the more than 50 national civic and fraternal as well as health agencies represented in the National Advisory Committee on Local Health Units, which, with their thousands of state and local affiliates, have been working toward the development of adequate local health units and strong community health councils throughout the country.

BOSTON UNIVERSITY HONORS PUBLIC HEALTH LEADERS

The Annual Founders' Day of Boston University, March 14, included honors for Howard A. Rusk, M.D., Professor and Head of the Department of Rehabilitation and Physical Medicine, New York University College of Medicine, and Associate Editor of the *New York Times*, who received an honorary Doctor of Science.

Also to Catherine A. Worthingham, M.A., Director of Professional Education of the National Foundation for Infantile Paralysis, New York, Honorary Doctor of Science, together with Honorary degrees of Doctor of Science in Physical Education to Francisca Reyes Aquino, University of the Philippines, Manila; Ruth Evans, Assistant Supervisor of Health, Physical Education and Safety in the schools of Springfield, Mass.; Anna Hiss, Director of Physical Training for Women at the Univesity of Texas, and William Leonard Hughes, M.D., Professor and Director of Health and Physical Education at Temple University, Philadelphia.

WATER POLLUTION CONTROL ADVISORY BOARD

Another step was taken in the nationwide attack on water pollution with the appointment of government members of the Water Pollution Control Advisory Board. The board now consists of 11 members—6 non-governmental and 5 governmental representatives. The duty of the board as provided by the legislation establishing the board is "to review the policies and programs of the Public Health Service as undertaken under authority of the Act and to make recommendations in reports to the Surgeon General." The recently appointed members of the board are, non-governmental members: Thomas Berrigan, Director and Chief Engineer, Metropolitan District Commission, Boston; L. A. Danse, Chairman, General Motors Industrial Waste Committee, General Motors Corporation, Detroit; Dr. Stanley B. Freeborn, Assistant Dean, College of Agriculture, Univer-

sity of California; Michael Klein, Chief Engineer, Office of the President, Borough of Manhattan, New York City; Carl D. Shoemaker, Conservation Director, National Wildlife Federation, Washington, D. C.; and Nathan T. Veatch, Black & Veatch, Consulting Engineers, Kansas City, Mo. The governmental representatives are: Mark D. Hollis, Assistant Surgeon General and Chief Engineering Officer, U.S.P.H.S., Chairman; Lt. Col. Hugh M. Arnold, C.E., Executive Officer to the Assistant Chief of Engineers for Civil Works; Milton C. James, Assistant Director, Fish and Wildlife Service, Department of the Interior; James W. Follin, Assistant Administrator, FWA; and Ralph R. Will, Administrative Officer, Office of the Secretary, Department of Agriculture.

USE OF COMPOUND 1080

The Service Letter for March 23, 1949, of the National Pest Control Association calls attention to a laxness on the part of many pest control operators in the observance of precautions in the use of compound 1080 in pest control work. Several "case histories" are given to illustrate dangerous practices of some individual operators. Several constructive suggestions are given to reduce accident and fatality hazards in the use of 1080. The New York City Department of Health application for consent by the Commissioner of Health for the use of sodium fluoroacetate (1080) is also reproduced. The National Pest Control Association is located at 3018 Ft. Hamilton Parkway, Brooklyn 19, N. Y.

CUTTER LECTURE BY DR. SPENCE

The Harvard School of Public Health announces that Dr. James C. Spence, Professor of Child Health, University of Durham, England, will deliver the Cutter Lecture on Preventive Medicine on May 11, 1949, at 5 p.m. in Amphitheatre D of the Harvard Medical School. Dr. Spence has chosen as his subject, "Preventive Medicine: the Role of Parents in Child Health." The Cutter Lectures on Preventive Medicine have been held since 1912, according to the terms of the will of Dr. John Clarence Cutter, of the class of 1877, which directed that they should be "free to the medical profession and to the press." In addition, medical and public health students and others interested are cordially invited to attend.

NEW JERSEY REORGANIZATION ADVANCES

Reorganization plans of the New Jersey State Health Department were approved by the State Public Health Council in June, 1948. Steps in carrying out this plan became effective in January, 1949. The Bureau of Laboratories was organized to take over all laboratory functions of the department, hitherto scattered in several divisions or bureaus. The Laboratory Bureau has four sections, bacteriology, chemistry, pathology, and serology. A. J. Casselman, M.D., is the director of the Bureau of Laboratories.

Another bureau organized at that time was the Bureau of Preventable Diseases, comprising sections on alcoholism, communicable diseases (including tuberculosis and venereal diseases), cancer and malignant diseases, dental diseases, and rehabilitation. Carl E. Weigele, M.D., is the director of the reorganized bureau.

BCG VACCINATION FOR INDIAN CHILDREN

The first widespread program of vaccination with BCG (Bacillus Calmette-Guerin) for the prevention of tuberculosis among Indians of the United States will be carried out during April, May, and June by the U. S. Bureau of Indian Affairs. To carry out the program eight vaccination teams were employed and sent to the field beginning on March 15. Each team is composed of one physician, one public health nurse, and a recording clerk. The personnel of the eight teams

convened at Albuquerque, N. M., on March 20 for a ten day instruction period. Included in the group were a doctor and a nurse from Puerto Rico as observers. Technical assistance is provided by the Tuberculosis Control Division of the U. S. Public Health Service, and the vaccine is furnished by the Henry Phipps Institute of Philadelphia.

ENGINEER HALL IN IRAN

In line with President Truman's Inaugural address proposing that the United States give technical assistance to other nations, Lawrence B. Hall, Assistant Chief, Engineering Division, of the Public Health Service's Communicable Disease Center in Atlanta, Ga., left early in March for Iran on a 3 month assignment to help in that country's fight against malaria. From headquarters in Teheran he is supervising training of Iranian personnel in carrying out a DDT spraying program initiated by Justin M. Andrews, M.D., another Public Health Service Officer, following a recent survey.

CONFERENCE ON SMOKE PREVENTION

The Forty-second Annual Conference of the Smoke Prevention Association of America will be held in Birmingham, Ala., May 23 through May 27. The program includes discussions of various types of industrial smoke control problems plus a consideration of the medical aspects of air pollution. The final day of the Conference will be taken up with a visit to the underground gasification of coal experiment, Gorgas, Ala., where the Alabama Power Company will demonstrate features of this experiment. For further information write to D. A. Sullivan, Commonwealth Engineering Company, 72 West Adam Street, Chicago 90, Ill.

TEXAS HEALTH ACTIVITIES APPROVED

The Texas Public Health Association, at its annual meeting in February, 1949, adopted a resolution of commendation for the work of the Texas State Health Department through its staff and under the leadership of the Health Officer, George W. Cox, M.D. Special recognition was given to the addition of the Divisions of Cancer, Health Education, Mental Health, and Hospital Construction to the State Health Department during the past 12 years. Attention was called to the increased activities for the control of venereal diseases, tuberculosis, malaria, typhus, and plague, and the construction of 22 health center buildings and a main office building for the State Health Department during the same period.

In conclusion, the resolution stated:

> "Now therefore be it Resolved, that we commend Dr. Cox for his extraordinary achievements; that we endorse his plans; that we give him a vote of confidence; and that we, the public health workers assembled here in convention, pledge our support to the continuation of his activities and policies which mean so much to the successful prosecution of a comprehensive public health program for all the citizens of Texas."

SPREAD OF POLIO BY SEWAGE HAS A COURT TEST

Irving D. Johnson, M.D., Marin County Health Officer, San Rafael, Calif., reports what is believed to be the first court test of an attempt to blame sewage as the direct cause of poliomyelitis.

The patient, a boy of 6 who had contracted polio in May, 1945, was one of 52 cases in Marin County during the epidemic of 1945. In the same year 898 cases occurred in California. The parents of the child attempted to collect $100,000 damages allegedly resulting from sewage in the residence which had overflowed in the basement. Judge Edward Butler presided in the Marin County Superior Court and denied a non-suit motion from the defendant for dismissal, based on lack of evidence and precedence in such cases. The court

gave way to the importance of such a test case and determined that the case should be decided by a jury.

The plaintiff contended that sewage had backed up in his basement on several occasions, in January and February and perhaps April, 1945. The parents claimed to have removed sewage from the basement with shovels, to have scrubbed down the floor with creosote and to have washed the floor with a hose. The child had played with toys in this basement. Among several expert witnesses was Dr. William McD. Hammon of the Hooper Foundation for Medical Research and Professor of Epidemiology at the University of California School of Public Health, who had studied the outbreak and who reached the conclusion that person-to-person spread was the most likely method of infection in this outbreak.

A jury of six men and six women deliberated 1½ hours and rendered a verdict of nine to three in favor of the defendant, the City of Mill Valley. Motion for a new trial was denied.

W. SCOTT JOHNSON

On March 13, 1949, the Association, and more particularly the Engineering Section, lost a strong supporter and friend through the death of W. Scott Johnson. It was almost a quarter of a century ago, 1925, that Mr. Johnson became a member of the Association. In 1933 he was elected a Fellow, and in 1946–1947 he served as Chairman of the Engineering Section Council. His influence was also felt through participation in committee and Section Council activities.

At the time of his death, Mr. Johnson was Chief Engineer and Director, Section of Environmental Sanitation, Missouri Division of Health, a position he had held since 1925. Under his guidance, the section had grown both in size and efficiency to become one of the better divisions of environmental sanitation in the country. His activities extended into other engineering fields, both state and national. The November, 1948, issue of the *Missouri Engineer* paid special tribute to Mr. Johnson upon the completion of 25 years' leadership in public health engineering in Missouri.

SOL PINCUS TO HEAD WHO SECTION ON ENVIRONMENTAL SANITATION

The appointment of Sol Pincus of New York, consulting engineer, as Head of the new Section on Environmental Sanitation for the World Health Organization, Geneva, Switzerland, was announced on April 4. Mr. Pincus left on that date for Geneva. The WHO has made environmental sanitation one of its six top priority programs for 1949.

Mr. Pincus, who is a native of Texas, is a graduate of the Columbia School of Engineering, and has served for two periods with the U. S. Public Health Service, principally in aiding states to develop sanitary engineering divisions. He served from 1935 to 1947 as Deputy Commissioner of the New York City Department of Health, and there directed sanitary engineering and food control activities until he returned to private practice.

LEGISLATIVE PROGRESS IN IDAHO

Public health in Idaho made important steps forward during the recent session of the State Legislature.

One of the foremost objectives of the legislative program of the Idaho Department of Public Health, under the leadership of L. J. Peterson, Administrative Director, was to carry out a proposal considered at the Rocky Mountain Conference on Local Health Units in Salt Lake City last October, which would permit county commissioners acting as county boards of health to make a one mill levy to be used solely and exclusively for local health services. Members of the Idaho delegation

attending this conference, representing varied organizations interested in good health, unanimously endorsed this proposal.

A bill for this purpose was introduced by the Public Health Committee of the House of Representatives and in passing both the House and the Senate received 95 favorable votes out of 103. It was signed by Idaho's governor in March.

Previously, the one mill proposal had been endorsed by the State Association of County Commissioners and Clerks, the Medical Association, the Dental Association, Anti-Tuberculosis Association, Congress of Parent-Teachers, the Junior Chamber of Commerce, Farm Bureau, Home Economics Association, the Idaho Division of the American Cancer Society, and other organizations interested in good health.

A second proposal endorsed at the Salt Lake City conference calling for an equalization fund for local health departments was not presented to the Legislature, principally because of federal legislation pending in Congress. It must be pointed out that the one mill levy will raise an estimated $500,000, approximately $1 per capita.

Other legislative achievements in which the Department of Public Health was interested include:

Approval of a uniform law on vital statistics; modernization of sanitation laws covering all types of eating and drinking establishments; reactivation of the public health industrial hygiene program; permission for counties, municipalities, and cities to vote on revenue bonds for construction of water and sewage treatment plants; additional powers in the protection of public water supplies. A bill requesting a state appropriation for financing a mobile x-ray unit was introduced but not passed.

Assistance was also given to the State Medical and Dental Associations in the approval of modern medical and dental practice acts. The dental act permits licensing of dental hygienists.

ACTING ON A REPORT

The six national nursing organizations have a joint committee on implementing the Brown report (*Nursing for the Future*, Esther Lucille Brown, Ph.D.). Its program is "to analyze and to plan toward the solution of major nursing service problems and to initiate action to meet present needs as well as long-range goals." It has distributed to the nation's nurses a study guide for use by local groups in analyzing community nursing needs and ways of meeting them.

The Chairman of the committee is Mary C. Connor, Research Associate of Teacher's College Division of Nursing Education at Columbia University. An executive committee of 7 members includes:

Ella Best, Executive Director, American Nurses' Association
Gladys Dondora, American Association of Industrial Nurses
Anna Fillmore, National Organization for Public Health Nursing
Adelaide A. Mayo, National League of Nursing Education
Mary M. Roberts, *American Journal of Nursing*
Alma Vessells, National Association of Colored Graduate Nurses
Dorothy Williams, Association of Collegiate Schools of Nursing

The Executive Secretary is Helen C. Goodale, and the headquarters office is at 250 W. 57th St., New York 19.

A subcommittee on School Data Analysis, under the chairmanship of Louise Knapp, director of the Washington University School of Nursing in St. Louis, is surveying nursing education resources. The results of a questionnaire study of nursing schools will be available in mid-summer. It is expected to furnish a base upon which "an efficient system of preparing nurses to meet the nation's nursing needs" can be planned.

MENTAL HYGIENE DIVISION IN A LOCAL HEALTH DEPARTMENT

Westchester County (N. Y.) is the only county in the state with a mental hygiene division in its health department. Serving a population of more than 300,000, the division has three clinics in different parts of the county. In 1948, a total of 1,900 interviews were held by these clinic staffs, doubling the demand of the previous year. The Health Commissioner, William A. Holla, M.D., reports that the entire department is becoming psychiatric-conscious. Through lectures and conference the bedside nurses and other workers are becoming aware of the mental health implications of their activities.

The division was first organized in 1946 to serve veterans, but children currently constitute 50 per cent of the case load, and the adults are both veterans and non-veterans.

The director of the division is Avraam T. Kazan, M.D. Its 1948 budget of nearly $65,000 was shared equally by the county and the state.

AMERICAN HEART ASSOCIATION BOARD APPROVES LOCAL HEALTH UNITS RESOLUTION

At a meeting on March 8, 1949, the Board of Directors of the American Heart Association approved the following resolution on local health units:

"The Board of Directors of the American Heart Association is keenly aware of the necessity for complete coverage of the Nation with full-time local health departments so staffed and financed that they may render the basic public health services commonly accepted as the right of all citizens. With knowledge of the present deficiencies in the quantity, quality and distribution of such services the Board urges its membership and its affiliate bodies to initiate and give active support to all appropriate measures that will obtain for their communities competent health departments.

"The Board further recognizes the need for financial assistance to many local communities for providing the services and facilities they require and so, to assure a strong nation-wide public health structure, approves in principle federal legislation designed to make such financial assistance available.

The American Heart Association is in full accord with the program of the National Health Council and its National Advisory Committee on Local Health Units for joining together, in coöperative action, the professional and lay forces to gain the desirable objective of adequate full-time local health services for all our people."

MEDICAL SERVICE CORPS APPOINTEES

When the Medical Service Corps was organized in 1947, 4 sections of the corps were established. The chiefs of 3 of these sections were appointed recently in ceremonies held at the Office of the Surgeon General, U. S. Army, in Washington. The recently appointed sections chiefs were: Lt. Col. Charles S. Gersoni, Medical Allied Sciences Section; Major Raymond J. Karpen, Sanitary Engineering Section; and Major John V. Painter, Pharmacy, Administration and Supply Section.

The present Medical Service Corps has approximately 750 officers, of which 640 are in the Pharmacy, Administration and Supply Section, 98 in the Medical Allied Sciences Section, 16 in the Sanitary Engineering Section, and 1 in the Optometry Section.

BRUCE MEMORIAL AWARD TO DR. BAYNE-JONES

The American College of Physicians at its meeting in New York late in March awarded the Bruce Memorial Award to Dr. Stanhope Bayne-Jones, the President of the joint administrative board of the New York Hospital-Cornell Medical Center, New York City, "for outstanding achievement in preventive medicine."

The James D. Bruce Memorial Medal was presented by Dr. Walter W. Palmer, President of the College, at its annual convocation. The citation described Dr. Bayne-Jones as "an inspiring teacher" at Johns Hopkins University, the University of Rochester, and

Yale University, where he had an important part in shaping the careers of many young physicians. Dr. Bayne-Jones during World War II was a Brigadier General in the Army Medical Corps and was Deputy Chief of the Preventive Medicine Service in the Office of the Surgeon General.

CORRECTION — DR. HUGH S. CUMMING A GRADUATE OF THE UNIVERSITY OF VIRGINIA MEDICAL SCHOOL

The editorial in the February issue of this *Journal*, page 225, stated that the late Dr. Hugh S. Cumming had graduated from the University College of Medicine at Richmond.

It now appears that, like other medical graduates in the 1890's, Dr. Cumming graduated from two medical schools. It appears that he first graduated from the University of Virginia Medical School at Charlottesville, and later received the second M.D. degree from the University College of Medicine at Richmond. The University of Virginia very naturally claims Dr. Cumming as an alumnus.

CONFERENCE OF PROFESSORS OF PREVENTIVE MEDICINE

Leland W. Parr, Ph.D., Chairman of the 1949 Conference of Professors of Preventive Medicine, has announced that the conference will meet on Monday, October 24, in New York City at the time of the 77th Annual Meeting of the American Public Health Association. The conference was organized in 1942 in St. Louis at the meeting of the A.P.H.A. that year. Its purpose is to promote fuller acquaintanceship among the men and women, part- or full-time teachers of hygiene, preventive medicine, and public health in the medical schools of the United States and Canada.

Dr. Parr, who is Professor at the George Washington University School of Medicine, Washington, and the Secretary, who is David D. Rutstein, M.D., 25 Shattuck Street, Boston, will welcome suggestions regarding the 1949 program.

ACADEMY OF PEDIATRICS REPORTS ON STUDY AND PROGRAM

The findings of a three year study of child care and plans of a nation-wide program for improvement of child health were announced by the American Academy of Pediatrics' president, Warren R. Sisson, M.D., of Boston, at a meeting in New York on April 2. Terming the study the most comprehensive inventory of the nation's health services ever undertaken by any organization, Dr. Sisson said that factual information collected from each of the 3,000 counties of the United States will enable health planners to know the individual needs of local communities.

"The program of the Academy at national and state levels is based on recommendations of the doctors themselves and will continue to call for coöperative effort on the part of practising physicians, health officials and individuals, nationally and in even the smallest communities. It is designed to put modern techniques and facilities more conveniently at the disposal of the physician, particularly the general practitioner." The family doctor, far from becoming extinct, according to the findings, is the bulwark of child care in this country. Two-thirds of the 116,000 practising physicians in the United States are general practitioners.

Although America's medical care of its children is among the best in the world, and the health level is the best in history, serious gaps and deficiencies exist; 3 babies died for every 2 soldiers killed in action during a year of World War II. In some countries where modern medical services are scarce, 5 times as many infants die as in more favored communities. While infant mortality's national average stands the lowest in history, there is variation from county to county and from state to state. In

one state it is as high as the national average was a quarter-century ago. The geography of health follows closely the geography of medical services.

The Academy's program proposes to utilize university medical centers as hubs from which would be "beamed" post-graduate teaching and metropolitan medical services directly into communities isolated from specialist care, clinic care and the highly skilled diagnostic and treatment services found in the cities. In this sense 2,000 of the 3,000 counties of the nation are isolated.

Individual state reports and recommendations are being published. State councils and committees representative of medical, health and lay groups are being created and stimulated to provide increased public health services and programs to combat the heavy toll of premature births and rheumatic fever.

Winthrop Rockefeller, Chairman of the Board of Trustees of New York University-Bellevue Medical Center; Dr. Thomas Parran, Dean of the new Graduate School of Public Health of the University of Pittsburgh; and Dr. R. L. Sensenich, President of the American Medical Association, as guest speakers praised the Academy for its decision to carry out its own recommendations based on the findings; for the constructive and non-controversial planning for the overall improvement of child health and for the unique move whereby the doctors requested and received the active coöperation of the Public Health Service and the Children's Bureau in the conduct of the study.

NEW MEXICO PUBLIC HEALTH ASSOCIATION

The 21st Annual Meeting of this A.P.H.A. Affiliated Society in New Mexico was held at Roswell, March 23 to 26, and the following officers were elected to serve for the forthcoming year. The offices of Librarian and Delegate to the United States-Mexico Border Public Health Association are newly created.

President—H. D. Newman, M.D.
President-elect—Myrtle Greenfield
Vice-President—Jean Prager
Librarian—Helen M. Boss
Representative on A.P.H.A. Governing Council—Billy Tober
Delegate to Western Branch, A.P.H.A.—Mary Pollard
Delegate to U. S.-Mexico Border Public Health Assn.—Eunice Vandervoort
Secretary-Treasurer—Mary M. Gilliland

TEXAS PUBLIC HEALTH ASSOCIATION

The Texas Public Health Association held its 1949 Annual Meeting in San Antonio from February 20 to 23. The registered attendance was over 500. New officers were elected as follows:

President—William R. Ross, M.D.
President-elect—Barnie Young
1st Vice-President—Graham Smoot
2nd Vice-President—Elvira Oetken
Executive Secretary—Earle W. Sudderth

PUERTO RICO PUBLIC HEALTH ASSOCIATION

The Eighth Annual Meeting of the Puerto Rico Public Health Association was held February 9–12 at the School of Tropical Medicine in San Juan. The registration was larger than at previous meetings and all sessions were well attended. The new officers of this society are as follows:

President—Juan A. Pons, M.D.
President-elect—Manuel A. Perez
Vice-President—Emilia Figueroa
Treasurer—Olga Martinez
Secretary—Raefael Pirazzi
Sub-secretary—Carmen Acevedo
Representative on the Governing Council, A.P.H.A.—Guillermo Arbona, M.D.

Among special guests from outside the Island were Herman E. Hilleboe, M.D., Commissioner of Health of New York State; John B. Hozier, M.D., Senior Surgeon, U. S. Public Health Service, New Orleans; Andrew J. Krog of New York; Edward G. McGavran, M.D., Dean of the School of Public Health, University of North Carolina; William

McKee Germain, M.D., Professor of Pathology, University of Cincinnati; John S. Moorhead, M.D., Commissioner of Health of the Virgin Islands; Glenn S. Usher, M.D., Venereal Disease Consultant, U. S. Public Health Service, New Orleans.

HEALTH EDUCATION WORKSHOPS

Following is a summary of announcements of a number of health education seminars or workshops being held during the summer of 1949. No attempt has been made to secure complete information on such courses. Information is presented about those whose material has come to the offices of the Association without solicitation:

Arizona—Arizona State College, Tempe, June 20–30—Second annual health educational workshop for school administrators and supervisors, 2 points credit. Cosponsors are the Arizona State Health Department and the U. S. Children's Bureau, with the Arizona and American Medical Associations as coöperating agencies. Consultants to be present for the workshop are:

T. H. Butterworth, U. S. Public Health Service
Donald Dukelow, M.D., American Medical Association
Charlotte Leach, National Tuberculosis Association
John L. Miller, Superintendent of Schools, Great Neck, N. Y.

The director of the workshop is Frank R. Williams, Director of Health Education, Arizona State Health Department, Phoenix. Presumably information on fees, housing, etc., are available from him.

Connecticut—Yale University—Department of Education, Graduate School in coöperation with the University Department of Public Health—and several official and voluntary agencies including the State Health Department, June 27–August 5 plus 2 weeks for the preparation of term papers and reports on projects. Graduate seminar in health education designed to meet the needs of both elementary and secondary school teachers. Workshop techniques will be used enabling each student to give special attention to his particular problems.

Represents 8 points of credit.

Tuition is $120. Some scholarships are available for Connecticut personnel. Candidates for an advanced degree at Yale will need to meet the usual University admission requirements; those not degree candidates need only to include with their applications a one page summary of their particular problems and a letter of recommendation from school principal or superintendent outlining their present or contemplated health education responsibilities.

Applications should be sent to Clyde M. Hill, Chairman, Department of Education, Yale University, New Haven. Scholarship applications to Scholarship Committee, Connecticut Tuberculosis Association, 43 Farmington Avenue, Hartford, Conn.

Massachusetts — Harvard University School of Public Health, Boston, July 11–23. Workshop in Nutrition Education, to acquaint persons in different areas of the United States with research programs and nutrition education for public schools; financed by grants from the Nutrition Foundation, Inc., and Swift and Co. Limited to 20 to 25 persons selected from those responsible for the health and education programs in their own schools. The same group will be brought back for purposes of evaluation in 1950. Transportation and expenses are on a scholarship basis. Apply Elizabeth Lockwood, Ph.D., Department of Nutrition, 695 Huntington Avenue, Boston 15.

New York—New York University, New York City, 3rd Annual Health Education Institute: School and Community Problems in Tuberculosis Education, August 15–September 9. Credit 2 to 6 points. Tuition $15.50 per point.

Registration $3.00. Apply Dr. Morey R. Fields, Department of Health and Physical Education, New York University, Washington Square.

New York—Syracuse University, Syracuse, July 5–23. Health education workshop for those responsible for or contributing to the secondary school health program. Credits 3 points, Tuition $51.

August 15–27, with the coöperation of the New York State Committee on Tuberculosis and Public Health, Institute for Tuberculosis Workers, Credit 2 points. Limited number of out-of-state workers accepted. Apply John Shaw, Chairman, Division of Teacher Education, Syracuse University, Syracuse, N. Y.

Ohio—University of Cincinnati, three consecutive Health Education Institutes:

Health Education—June 21–June 26
Social Hygiene—June 28–July 2
Mental Hygiene—July 5–July 10.

Fees: Per credit hour

Resident—Undergradute $7.50; Graduate $10.00

Non-resident — Undergraduate $9.00; Graduate $11.00

Some scholarships are available. Apply Dr. J. R. Heller, Medical Director, Division of Venereal Diseases, U. S. Public Health Service, Washington, D. C. For other details apply Dean, Summer School, University of Cincinnati, Cincinnati, 20.

Oklahoma—University of Oklahoma, Norman, June 20–July 28 in coöperation with State Departments of Education and Health. Workshop to develop materials for a curriculum in health education for elementary schools. Enrollment limited to 25 or 30. Inquire Dr. Laurence T. Rogers, Faculty Exchange, University of Oklahoma, Norman.

Pennsylvania—University of Pennsylvania, Philadelphia, June 27 to July 29, Institute of Health & Human Relations. Joint sponsorship of U. S. Public Health Service, American Social Hygiene Association and Pennsylvania State Health Department. Five semester credit hours and tuition $110. Registration limited to 50 students. Dr. J. H. Stokes, Director, Institute for the Study of Venereal Disease, University of Pennsylvania Hospital, 36th and Spruce Streets, Philadelphia 4. For scholarships apply Dr. Heller as above.

Rhode Island—Rhode Island State College, Kingston. Courses on Education for Family Life, July 5–August 12. Tuition $8.00 per credit hour; $10.00 non-residents. Apply Director of Summer School, Rhode Island State College, Kingston

Washington—University of Washington, Seattle, June 20–July 20. Sponsored jointly by the Department of Public Health and Preventive Medicine of the Medical School, the College of Education, School of Nursing Education, and the Department of Health and Physical Education. Two courses directed by Dr. Dorothy Nyswander of the University of California School of Public Health as follows:

1. *Health Education*—designed for classroom teachers, special teachers of health subjects, public health nurses, and school administrators.
2. *Public Health Program*—planned for school administrators and school health coördinators. Deals with the place of the health program in the total school program, administrative problems of the school health program, and the relationship of the school health program to the whole community health program.

The two courses follow each other from 8 to 10 in the morning, Monday to Friday. Each carries 2½ hours of credit in education.

For details as to tuition, housing arrangements, entrance requirements, etc., inquire University of Washington Summer School, Seattle.

RECENT ALCOHOL RESEARCH EVENTS

Two changes in organizations dealing with the problem of alcoholism took place early in the current year. At a special meeting in January the membership of the Research Council on Problems of Alcohol voted to transfer its research operations and assets to the National Research Council and its public informational and educational publications to the Division of Mental Hygiene of the U. S. Public Health Service. In commenting on this decision the President, A. J. Carlson, M.D., said, "The decision of these two national agencies to concern themselves with the problems of alcohol is a clearcut reflection of the progress made in this field over the past decade."

For the past 11 years the Council on Problems of Alcohol has furnished leadership in developing state and local medical care programs for alcoholics. It has stimulated research on the causes and treatment of problem drinkers. It is at present supporting a 5 year research and treatment project on alcoholism at the Cornell-New York Hospital Medical Center in New York; a study of the biochemical factors in problem drinking, at the University of Texas Biochemical Institute; a study of the endocrinological factors at the New York University-Bellevue Hospital Medical Center; a study of allergic factors at the University of Washington Medical School; and a treatment project planned for the School of Medicine of either the University of Chicago or University of Illinois. These projects are now under the supervision of the National Research Council, and its Chairman of the Division of Medical Sciences, is Lewis H. Weed, M.D.

In this transfer of assets the New York Office of the Research Council on Problems of Alcohol was closed. The former director, Joseph Hirsh, is now a member of the Medical Advisory Commission, Division of Alcohol Studies and Rehabilitation, Virginia State Health Department.

At about the same time an Organization Committee for Research on Medical Treatment of Alcoholic Patients was formed. Its purpose is to explore fully the toxic properties and therapeutic value of a drug known as tetraethyl thiuram disulfide. Used in the vulcanization of rubber, there have been reported instances of its creating an intolerance for alcohol, and has been used in the treatment of alcoholics in Denmark and Sweden. The new committee will carry forward research begun by H. Brieger, M.D., Assistant Professor of Preventive Medicine, Jefferson Medical College, whose report indicates the need for further investigation before the drug can be considered safe for the treatment of alcoholics.

The Chairman of the Organization Committee is Edwin G. Zabriskie, M.D., Professor Emeritus of Clinical Neurology, Columbia University College of Physicians and Surgeons. His six associates are all New York physicians. The committee is trying to raise $50,000 and will begin its research as soon as $25,000 is available. Temporary offices are at 143 East 39th St., New York City, and the Acting Executive Secretary is Basil G. Eaves.

PERSONALS

VIRGINIA ARNOLD, Nurse Officer, Office of International Health Relations, U. S. Public Health Service, attended the 3rd session of the United Nations Commission on the Status of Women, at Beirut, Lebanon. March 21–April 8, as adviser to the United States delegation on health, education, and nursing.

JOHN A. BARGER, M.D.,† formerly with the Bureau of Preventable Diseases, Florida State Board of Health has been appointed Assistant Director of Public Health, Norfolk, Va.

CHARLES P. BERGTHOLDT, M.P.H.,†

formerly Assistant Director of the Division of Industrial Hygiene, Nebraska State Department of Health, Lincoln, became Industrial Hygienist at the U. S. Naval Gun Factory, November 1, 1948, with headquarters in the Medical Department of the U. S. Naval Gun Factory, Washington 25, D. C.

GEORGE F. CAMPANA, M.D.,* most recently a District Health Officer of the Massachusetts Department of Public Health, became Health Officer of Milford, Conn., on March 1.

FILIBERTO RAMIREZ CORRIA, who since 1933 has been pathologist at the Finlay Institute in Havana, Cuba, has been appointed Director General of the Finlay Institute effective January 21.

MARY E. CHAYER, R.N.,* has been promoted to a full professorship in nursing education at Teachers College, Columbia University, New York City, effective July 1.

JAMES GORDON CUMMING, M.D., Dr. P.H.,† has retired, effective March 1, as Director of the Bureau of Preventable Diseases of the District of Columbia Health Department after 24 years of service. Dr. Cumming's career includes the directorship of the Pasteur Institute, University of Michigan; directorship of the Bureau of Communicable Diseases, California State Department of Health; Health Officer of Philadelphia, Pa., and long service in the Armed Forces.

DONALD G. EVANS, M.D.,* formerly Director of the Washington State Department of Public Health and now in private practice, is the new president of the King County (Washington) Anti-Tuberculosis League.

HAROLD B. GOTAAS, Sc.D.,* Professor of Sanitary Engineering, University of California, Berkeley, since 1946, was recently appointed Chairman of the Division of Civil Engineering. During the recent war he was assigned by the Army to the Institute of Inter American Affairs as Director of Health and Sanitation and later as President.

FREDERICK O. GRAEBER, M.D., M.P.H., has been appointed the first full-time Malheur County, Oregon, Health Officer with headquarters in Vale.

RALPH GREGG, M.D., who first joined the Service in 1928, has been made Assistant Chief of the Foreign Quarantine Division of the U. S. Public Health Service. Dr. Gregg served abroad with the Foreign Quarantine Division at American Consulates in Poland, Italy, Ireland, and England, in charge of medical examination of aliens. He succeeds FREDERICK W. KRATZ, M.D., who has been assigned to the Public Health Service Office, Region 3 in Washington, D. C., as Program Director, Hospital Facilities Division.

SIDNEY V. HAAS, M.D., was recently honored with a Golden Book of World Tributes and a luncheon at the New York Academy of Medicine for his contribution to pediatrics, with particular reference to his original and pioneering work in celiac disease and in the treatment of hypertonic infants.

MARGUERITE F. HALL, Ph.D.,* formerly Associate Professor of Public Health Statistics, University of Michigan, has been appointed to direct the Bureau of Vital Statistics and Administration in the New Jersey State Department of Health.

BERNARDO A. HOUSSAY, M.D., of Argentina, co-winner of the 1947 Nobel Prize for physiology and medicine, is in the United States as a Special Research Fellow of the Public Health Service to do research for 3 months at the National Institutes of Health in Bethesda, Md.

JULIA JANE HEREFORD,† Associate Pro-

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* Fellow A.P.H.A.
† Member A.P.H.A.

fessor of Nursing, has been appointed to serve as Associate Dean of the School of Nursing at Vanderbilt University, Nashville, Tenn., until July 1, when she will become Dean on retirement of Frances Helen Zeigler.

KENNETH D. JOHNSON, General Counsel of the National Security Resources Board, has been appointed Dean of the New York School of Social Work succeeding WALTER W. PETTIT, who retired.

CAROLYN E. KINNEY has been appointed as Nurse Consultant in Mental Hygiene, Kansas State Board of Health, coming to her new position on completion of the 16 month course for Mental Hygiene Nurse Consultants at Teachers College, Columbia University.

BETTY MALINKA,† Indiana Field Representative of the National Foundation for Infantile Paralysis and two term member of the Indiana Legislature, recently won the 1948 Oberlin Award of the Lake County (Indiana) Medical Society for obtaining "more and better health legislation in the 1947 legislature than in any previous session."

LAD R. MEZERA, M.D.,† recently Assistant Director of the Maricopa County (Arizona) Health Unit, is now Acting Director of Maternal and Child Health, Arizona State Health Department.

ELEANOR L. MCKNIGHT, M.S.,† has been appointed Chief of the Division of Nutrition, Bureau of Food Control, Baltimore Department of Health.

PABLO MORALES-OTERO, M.D.,* Director of Puerto Rico's School of Tropical Medicine, has been appointed to a chair on the Medical Faculty of Columbia University in New York.

JAMES J. QUINLIVAN, M.D.,† has received permanent appointment as Assistant Director of Local Health Administration in the New York State Health Department's Division of Local Health Services. He served as acting Assistant Director from March, 1948.

WILLARD C. RAPPLEYE, M.D.,† who has been Dean of Columbia University College of Physicians and Surgeons, New York City, and of related schools, has been appointed Vice-President of Columbia University in charge of medical affairs.

DAVID RESNICK,* New York Public Relations Counsellor, has been retained as Consultant to the American Hearing Society of Washington, D. C.

BROOKS RYDER, M.D.,† formerly District Health Officer, Quincy office, Massachusetts Department of Public Health, has joined the Bingham Associates Fund in Boston to carry on the medical extension work of Tufts Medical School and the Joseph H. Pratt Diagnostic Hospital.

CLAUDE A. SELBY, M.D.,† formerly Public Health Consultant with the War Assets Administration, has been appointed to the directorship of the Cameron County (Texas) Health Unit.

GEORGE A. SILVER, M.D., M.P.H.,† was recently appointed Health Officer of the Eastern Health District in Baltimore, succeeding HARRY L. CHANT, M.D., M.P.H., who has become Director of the Medical Care Clinic of Johns Hopkins Hospital, Baltimore.

EDWARD B. SINCLAIR, M.D., has been appointed crippled children physician, Connecticut State Department of Health. After discharge from the army in 1946, Dr. Sinclair was Medical Consultant for Vocational Rehabilitation, Veterans Administration office, Providence.

ALBERT SZENT-GYORGYI, M.D., Professor of Biochemistry, University of Budapest, and 1937 Nobel prize winner in Medicine for discoveries result-

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* Fellow A.P.H.A.
† Member A.P.H.A.

ing in the isolation and identification of vitamin C, and for his fundamental work on biological oxidation, is working as a Special Research Fellow at the National Institutes of Health, Bethesda, Md.

MATTHEW TABACK, M.A.,† has been appointed first Director of the Bureau of Biostatistics in the Statistical Section, Baltimore Health Department. The Statistical Section is under the direction of W. THURBER FALES, D.Sc.*

PAUL W. THURSTON has been appointed Director of Community Case Finding for the Queensboro Tuberculosis and Health Association, New York.

L. O. TUCKER is the new advisory milk sanitarian for the Washington State Health Department succeeding JOHN B. Drake, who has resigned to teach in the Division of Public Health and Preventive Medicine of the University of Washington Medical School.

VIRGINIA STATE HEALTH DEPARTMENT—PERSONNEL CHANGES

FRED C. HEATH, M.D.,† Health Officer of the Giles-Montgomery-Radford Health District, and

MILDRED ESTHER SCOTT, M.D.,† Health Officer of the Rockingham-Harrisonburg Health Department are studying at Johns Hopkins School of Hygiene and Public Health.

GEORGE E. WATERS, M.D., was appointed Health Officer of the Rockingham-Harrisonburg Health Department effective January, 1949.

J. A. FIELDS, M.D., resigned as Health Officer of the Halifax Health District, as of November, 1948.

R. M. WILSON, M.D., became Health Officer of the Henrico County Health Department in December, 1948.

J. C. ELLINGTON, M.D.,* recently assumed his duties as Health Officer of the City of Lynchburg.

J. E. SMITH, veteran of World War II, has been appointed sanitarian for the County of Chesterfield.

ROBERT M. BEATTIE, who served in the United States Navy during World War II, has been appointed sanitarian of Nottoway County.

E. E. RENN, formerly with the malaria control project in Norfolk, has been made sanitarian of Warwick county.

EDWIN H. WEST, M.D., on February 15, became Assistant Director of Tucson-Pima (Arizona) Health Unit succeeding C. R. KROEGER, M.D.,† who resigned to become Health Officer of Imperial County, California.

WEST VIRGINIA—PERSONNEL CHANGES:

ISABELL DOROTHY TAYLOR has been appointed Medical Social Consultant in Maternal and Child Health, State Department of Health.

PAUL D. BIBB is now Hospital Field Representative of the State Department of Health, succeeding A. J. WILLIAMSON who resigned to become Administrator of the Grafton City Hospital.

BERTHOLD ZOFFER,† Senior Assistant Surgeon, has been loaned to West Virginia by the U. S. Public Health Service as Medical Officer in charge of the West Virginia Medical Center in South Charleston.

Deaths

ANNA M. GOVE, M.D.,† Physician and Professor Department of Health, Woman's College University of North Carolina, Greensboro. (Unaffiliated.)

EDGAR M. GRIFFITH, M.D.,† Health Officer Cass County Health Unit, Harrisonville Mo. (Health Officers Section.)

ROY W. MORRISON, Ph.D.,† University of Florida, College of Education, Gainesville. (Public Health Education Section.)

CONFERENCES AND DATES

American Association of Social Workers. Cleveland, Ohio. **June 10–12.**

American Physical Therapy Association. Copley Plaza Hotel, Boston, Mass. June 19–24.

American Public Health Association—77th Annual Meeting, New York, N. Y. October 24–28.

American Society of Medical Technologists. Hotel Roanoke, Roanoke, Va. June 20–23.

American Water Works Association:
Annual Conference. Stevens Hotel, Chicago, Ill. May 30–June 3.
New Jersey Section Outing. June 23.
Pacific Northwest Section May 12–14.

Arizona Public Health Association. Hassayampa Hotel. Prescott, Ariz. May 12–13.

Association for Physical and Mental Rehabilitation. Third Annual Convention. Hotel New Yorker, New York, N. Y. May 18–21.

Canadian Public Health Association. 37th Annual Meeting. Halifax. June 28–30.

Colorado Public Health Association. Vail Hotel, Pueblo, Colo. May 23–24.

Commonwealth and Empire Health and Tuberculosis Conference. Central Hall, London, England. July 5–8.

Connecticut Public Health Association. Hartford, Conn. June 14.

First Congress International Hospital Association. Amsterdam and Groningen, Holland. May 30–June 4.

Florida Public Health Association. George Washington Hotel. West Palm Beach, Fla. October 6–8.

Georgia Public Health Association. DeSoto Hotel. Savannah, Ga. May 2–4.

Health Officers and Public Health Nurses of New York State. Lake Placid, N. Y. June 20–23.

Idaho Public Health Association. Legion Hall, Twin Falls, Ida. May 23–24.

International Association of Milk and Food Sanitarians. Deschler-Wallick Hotel, Columbus, Ohio. October 20–22.

International Congress on Rheumatic Diseases. New York, N. Y. May 30–June 3.

Iowa Public Health Association. Des Moines, Iowa. June 2–3.

Massachusetts Public Health Association. Amherst, Mass. June 15–17.

Michigan Public Health Association. Hotel Statler, Detroit, Mich. November 9–11.

Middle States Region Health Educator Conference. Milwaukee, Wis. May 11–13.

Minnesota Public Health Conference. Nicollet Hotel, Minneapolis, Minn. September 30.

Missouri Public Health Association. Jefferson City, Mo. May 4–6.

National Association of Sanitarians. Biltmore Hotel, Los Angeles, Calif. August 15–18.

National Conference of Social Work. Cleveland, Ohio. June 12–18.

National Convention of the American Red Cross. Atlantic City, N. J. June 27–30.

National Education Association. Hotel Statler, Boston, Mass. July 4–8.

National Social Welfare Assembly. New York, N. Y. May 18.

Royal Sanitary Institute. Brighton, England. May 23–27.

Society of American Bacteriologists. Cincinnati, Ohio. Hotel Netherland Plaza. May 16–20.

South Carolina Public Health Association. Gloria Theater. Myrtle Beach, S. C. May 30–June 1.

Third Inter-American Congress of Radiology. Santiago, Chile. November 11–17.

Washington State Public Health Association Spokane, Wash. September 19–20.

Western Branch American Public Health Association. Biltmore Hotel, Los Angeles, Calif. May 30–June 1.

West Virginia Public Health Association. Daniel Boone Hotel, Charleston, W. Va. June 2–3.

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Three separate manuals give step-by-step instructions to the local survey director, the field crew and the office staff of a dwelling survey.

Part III. APPRAISAL OF NEIGHBORHOOD ENVIRONMENT — **In Press**
Similar instructions are given for measuring the physical adequacy of neighborhoods.

* American Journal of Public Health, August 1945.

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Announcing the publication of

DIAGNOSTIC PROCEDURES IN VIRUS AND RICKETTSIAL DISEASES

This handbook, prepared by the Committee on Virus and Rickettsial Diseases of the Laboratory Section and edited by the Chairman of the Committee, Thomas F. Francis, Jr., M.D., details procedures which can be employed and interpreted by laboratory workers in the diagnosis of sixteen virus diseases. The diseases selected are essentially those of man for which procedures are available for use in a diagnostic laboratory.

Each of the sixteen sections has been written by an authority in the field. Much of the experience of each author has been contributed to his chapter and as a result the entire volume constitutes a compilation of methods proved by actual experience.

The volume has grown out of a recognized need for a publication of collected methods and has developed from a round table presentation at the Annual Meeting of the American Public Health Association in 1946. The methods are not presented as standards but are those most currently useful.

Members of the committee who have contributed and their subjects are as follows:

Psittacosis
K. F. Meyer, Ph.D., M.D. and B. Eddie, Dr.P.H.

Lymphogranuloma Venereum
Geoffrey Rake, M.B.

Trachoma and Inclusion Blennorrhea
Phillips Thygeson, M.D.

Variola and Vaccinia
Robert F. Parker, M.D.

Influenza
George K. Hirst, M.D.

Primary Atypical Pneumonia
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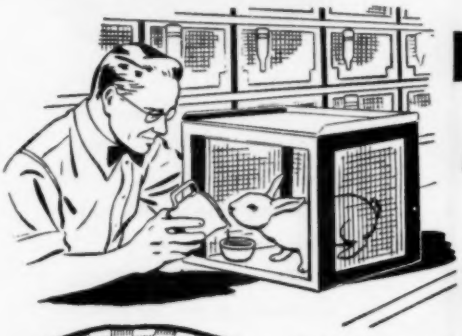

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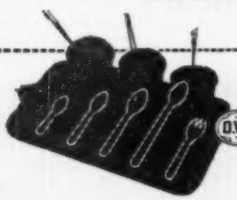

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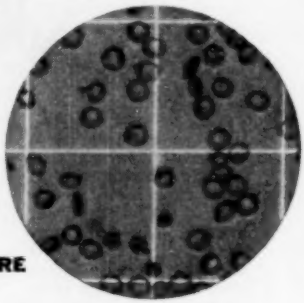

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* Domingo Orvananos, M.D. 1907
* Richard H. Lewis, M.D. 1908
* Gardner T. Swarts, M.D. 1909
* Charles O. Probst, M.D. 1910
* R. M. Simpson, M.D. 1911
* J. N. Hurty, M.D. 1912
* Rudolph Hering, Sc.D. 1913
W. C. Woodward, M.D. 1914
* W. T. Sedgwick, Sc.D. 1915
John F. Anderson, M.D. 1916
W. A. Evans, M.D. 1917
* C. J. Hastings, M.D. 1918
* Lee K. Frankel, Ph.D. 1919
W. S. Rankin, M.D. 1920
* Mazÿck P. Ravenel, M.D. 1921
A. J. McLaughlin, M.D. 1922
* E. C. Levy, M.D. 1923
* W. H. Park, M.D. 1924
Henry F. Vaughan, Dr.P.H. 1925
C.-E. A. Winslow, Dr.P.H. 1926
* Charles V. Chapin, M.D. 1927
Herman N. Bundesen, M.D. 1928
* George W. Fuller 1929
A. J. Chesley, M.D. 1930
* Hugh S. Cumming, M.D. 1931
Louis I. Dublin, Ph.D. 1932
John A. Ferrell, M.D. 1933
Haven Emerson, M.D. 1934
Eugene L. Bishop, M.D. 1935
Walter H. Brown, M.D. 1936
Thomas Parran, M.D. 1937
* Arthur T. McCormack, M.D. 1938
Abel Wolman, Dr.Eng. 1939
Edward S. Godfrey, Jr., M.D. 1940
* W. S. Leathers, M.D. 1941
John L. Rice, M.D. 1942
Allen W. Freeman, M.D. 1943
Felix J. Underwood, M.D. 1944
* John J. Sippy, M.D. 1945–1946
Harry S. Mustard, M.D. 1947
Martha M. Eliot, M.D. 1948
Charles F. Wilinsky, M.D. 1949

* Deceased

Recipients of the Sedgwick Memorial Medal

Granted " for distinguished service in public health ":

1929 Charles V. Chapin, M.D.*
1930 Theobald Smith, M.D.*
1931 George W. McCoy, M.D.
1932 William H. Park, M.D.*
1933 Milton J. Rosenau, M.D.*
1934 Professor Edwin O. Jordan *
1935 Haven Emerson, M.D.
1936 Frederick F. Russell, M.D.
1937 No award
1938 Wade H. Frost, M.D.*
1939 Thomas Parran, M.D.
1940 Hans Zinsser, M.D.*
1941 Charles Armstrong, M.D.
1942 C.-E. A. Winslow, Dr.P.H.
1943 Brig. Gen. James S. Simmons, M.C.
1944 Ernest W. Goodpasture, M.D.
1945 No award
1946 Karl F. Meyer, M.D.
1947 Reginald M. Atwater, M.D.
1948 Abel Wolman, Dr.Eng.

* Deceased

AMERICAN PUBLIC HEALTH ASSOCIATION
GOVERNING COUNCIL

OFFICERS 1948–1949

President, Charles F. Wilinsky, M.D., Boston, Mass.
President-Elect, Lowell J. Reed, Ph.D., Baltimore, Md.
Vice-President, Guillermo Arbona, M.D., Santurce, P. R.
Vice-President, Albert E. Berry, Ph.D., Toronto, Ont.
Vice-President, Florence R. Sabin, M.D., Denver, Colo.
Treasurer, Louis I. Dublin, Ph.D., New York, N. Y.
Chairman of Executive Board, Hugh R. Leavell, M.D., Boston, Mass.
Executive Secretary, Reginald M. Atwater, M.D., New York, N. Y.

EXECUTIVE BOARD

Chairman, Hugh R. Leavell, M.D., Boston, Mass. (1949)
Leona Baumgartner, M.D., New York, N. Y. (1951)
Louis I. Dublin, Ph.D., New York, N. Y. (Treasurer)
Edward G. McGavran, M.D., Chapel Hill, N. C. (1949)
Lowell J. Reed, Ph.D., Baltimore, Md. (President-Elect)
Thomas F. Sellers, M.D., Atlanta, Ga. (1951)
George M. Uhl, M.D., Los Angeles, Calif. (1950)
Estella F. Warner, M.D., Washington, D. C. (1950)
Charles F. Wilinsky, M.D., Boston, Mass. (President)

ELECTIVE COUNCILORS

Terms Expiring 1949

Gaylord W. Anderson, M.D., Minneapolis, Minn.
A. J. Chesley, M.D., Minneapolis, Minn.
Harold S. Diehl, M.D., Minneapolis, Minn.
Ira V. Hiscock, Sc.D., New Haven, Conn.
Pearl L. Kendrick, Sc.D., Grand Rapids, Mich.
James P. Leake, M.D., Washington, D. C.
Hugh R. Leavell, M.D., Boston, Mass.
George T. Palmer, Dr.P.H., San Francisco, Calif.
James G. Townsend, M.D., Bethesda, Md.
Felix J. Underwood, M.D., Jackson, Miss.

Terms Expiring 1950

George Baehr, M.D., New York, N. Y.
Earnest Boyce, C.E., Ann Arbor, Mich.
Ruth E. Boynton, M.D., Minneapolis, Minn.
Mayhew Derryberry, Ph.D., Washington, D. C.
Thomas Francis, Jr., M.D., Ann Arbor, Mich.
Wilton L. Halverson, M.D., San Francisco, Calif.
Roy J. Morton, M.S., Oak Ridge, Tenn.
Joseph W. Mountin, M.D., Washington, D. C.
Bosse B. Randle, R.N., Mineola, N. Y.
Huntington Williams, M.D., Baltimore, Md.

Terms Expiring 1951

Charles F. Blankenship, M.D., Carson City, Nev.
Roy F. Feemster, M.D., Boston, Mass.
John E. Gordon, M.D., Boston, Mass.
Herman E. Hilleboe, M.D., Albany, N. Y.
Benjamin G. Horning, M.D., Battle Creek, Mich.
James E. Perkins, M.D., New York, N. Y.
Ruth R. Puffer, Dr.P.H., Nashville, Tenn.
James S. Simmons, M.D., Boston, Mass.
Dean F. Smiley, M.D., Chicago, Ill.
Myron E. Wegman, M.D., New Orleans, La.

SECTION OFFICERS

Health Officers

Chm., Stanford F. Farnsworth, M.D., Oakland, Calif.
Vice-Chm., John M. Whitney, M.D., Washington, D. C.
Secy., Joseph G. Molner, M.D., Detroit, Mich.
Section Council,
Richard F. Boyd, M.D., New York, N. Y.
C. Howe Eller, M.D., Richmond, Va.
Joseph H. Kinnaman, M.D., Mineola, N. Y.
Carl N. Neupert, M.D., Madison, Wis.
Emil E. Palmquist, M.D., Seattle, Wash.

Laboratory

Chm., Howard J. Shaughnessy, Ph.D., Chicago, Ill.
Vice-Chm., Geoffrey Edsall, M.D., Jamaica Plain, Mass.
Secy., Albert H. Harris, 2nd, M.D., Albany, N. Y.

AMERICAN PUBLIC HEALTH ASSOCIATION GOVERNING COUNCIL—Cont.

Statistics

Chm., Forrest E. Linder, Ph.D., Lake Success, N. Y.
Vice-Chm., Elizabeth Parkhurst, M.S., Albany, N. Y.
Secy., Clara E. Councell, Ph.D., Washington, D. C.

Engineering

Chm., M. Allen Pond, M.P.H., Washington, D. C.
Vice-Chm., Charles L. Senn, Los Angeles, Calif.
Secy., George O. Pierce, M.S., Minneapolis, Minn.

Industrial Hygiene

Chm., William G. Fredrick, Sc.D., Detroit, Mich.
Vice-Chm., Leonard Greenburg, M.D., New York, N. Y.
Secy., Richard T. Page, M.S., Kansas City, Mo.

Food and Nutrition

Chm., Paul S. Prickett, Ph.D., Evansville, Ind.
Vice-Chm., Margaret C. Moore, New Orleans, La.
Secy., Alice H. Smith, M.S., Lansing, Mich.

Maternal and Child Health

Chm., Sarah S. Deitrick, M.D., Washington, D. C.
Vice-Chm., Samuel B. Kirkwood, M.D., Boston, Mass.
Secy., Edward Davens, M.D., Baltimore, Md.

Public Health Education

Chm., A. Helen Martikainen, M.P.H., Raleigh, N. C.
Vice-Chm., Bess Exton, Los Angeles, Calif.
Secy., Donald A. Dukelow, M.D., Chicago, Ill.

Public Health Nursing

Chm., Ruth Freeman, R.N., Washington, D. C.
Vice-Chm., Margaret S. Taylor, R.N., Minneapolis, Minn.
Secy., Margaret L. Shetland, R.N., Lansing, Mich.

Epidemiology

Chm., John J. Phair, M.D., Louisville, Ky.
Vice-Chm., Hollis S. Ingraham, M.D., Albany, N. Y.
Secy., Franklin H. Top, M.D., Detroit, Mich.

School Health

Chm., Warren H. Southworth, Dr.P.H., Madison, Wis.
Vice-Chm., Marjorie L. Craig, New York, N. Y.
Secy., S. S. Lifson, M.P.H., New York, N. Y.

Dental Health

Chm., Philip E. Blackerby, Jr., D.D.S., Battle Creek, Mich.
Vice-Chm., Leon R. Kramer, D.D.S., Topeka, Kans.
Secy., Lester A. Gerlach, D.D.S., Milwaukee, Wis.

Medical Care

Chm., Edward S. Rogers, M.D., Berkeley, Calif.
Vice-Chm., Edwin L. Crosby, M.D., Baltimore, Md.
Secy., Milton Terris, M.D., Bethesda, Md.

Representatives of Affiliated Societies and Branches

James P. Ward, M.D., Arizona
Roy L. Cleere, M.D., Colorado
Richard O. Shea, M.D., Connecticut
Domingo F. Ramos, M.D., Cuba
Wilson T. Sowder, M.D., Florida
M. E. Winchester, M.D., Georgia
Lawrence J. Peterson, Idaho
Edward A. Piszczek, M.D., Illinois
Walter L. Bierring, M.D., Iowa
Charles A. Hunter, Ph.D., Kansas
L. Jackson Smith, M.D., Massachusetts
David Littlejohn, M.D., Michigan
————, Minnesota
Joseph C. Willett, D.V.M., Missouri
Billy Tober, New Mexico
John L. Rice, M.D., New York City
Bernardine Cervinski, M.P.H., North Dakota
Charles E. Smith, M.D., Northern California
Carl A. Wilzbach, M.D., Ohio
Ruth H. Weaver, M.D., Pennsylvania
Eduardo Garrido-Morales, M.D., Puerto Rico
Ben F. Wyman, M.D., South Carolina
George M. Uhl, M.D., Southern California
————, South Dakota
John J. Lentz, M.D., Tennessee
Earle W. Sudderth, Texas
E. H. Bramhall, Utah
Kathleen M. Leahy, R.N., Washington State
Katharine E. Cox, West Virginia
Robert H. Riley, M.D., Southern Branch
Florence R. Sabin, M.D., Western Branch

CONSTITUTION AND BY-LAWS

AMERICAN PUBLIC HEALTH ASSOCIATION

As Adopted at the Seventy-sixth Annual Meeting, November 10, 1948

CONSTITUTION

ARTICLE I NAME

The name of this Association, incorporated under the laws of Massachusetts, is the American Public Health Association.

ARTICLE II OBJECT

The object of this Association is to protect and promote public and personal health.

ARTICLE III MEMBERSHIP

Section 1. There shall be seven classes of constituents to be designated as Fellows, Honorary Fellows, Members, Sustaining Members, Life Members, Affiliated Societies, and Regional Branches.

Section 2. The right to hold office, except the office of Vice-President, or to serve as a member of the Governing Council, the Executive Board, or of a Section Council, or of a standing committee, or as the chairman of a committee of the Association or of a Section, or to vote for elective Councilors or on any amendment to the Constitution shall be limited to Fellows and to Life Members and Honorary Fellows who have been elected Fellows of the Association.

Section 3. The qualifications of the several classes of constituents, and the dues of each of them, the manner of their election, and their rights and privileges, except as specified in this Constitution, shall be established in the By-Laws.

ARTICLE IV GOVERNING COUNCIL COMPOSITION

Section 1. There shall be a Governing Council which shall consist of:

(a) The officers of the Association and the elective members of the Executive Board.

(b) The Chairman, Vice-Chairman, and Secretary of each Section, and the elective members of the Council of the Health Officers Section.

(c) One representative to be designated by each Affiliated Society.

(d) One representative to be designated by each Regional Branch.

(e) Thirty members of the Council, to be elected by the Fellowship of the Association, for three-year terms, one-third of whose terms shall expire each year. Such members of the Council shall be known as elective Councilors and shall be nominated and elected as provided for in the By-Laws. If an elective Councilor is elected a Section Chairman, Vice-Chairman, or Secretary, or an elective member of the Council of the Health Officers Section, or appointed the representative of an Affiliated Society, or of a Regional Branch, a Councilor to fill such vacancy shall be elected by the Governing Council. All vacancies while in office shall be filled by election for the unexpired term. After two consecutive terms, an elective Councilor shall be ineligible for reëlection to the Council during one Association year.

Section 2. The terms of all Councilors, except the representatives of Affiliated Societies and Regional Branches, shall begin immediately following the adjournment sine die of the Governing Council in existence at the time of their election and shall terminate with the adjournment sine die of the Governing Council at the annual meeting at which their respective terms expire; provided that newly elected Councilors shall have the right to attend meetings of the Council in an advisory capacity as soon as elected.

The terms of the representatives of Affiliated Societies and Regional Branches shall begin and terminate in accordance with the constitutions and by-laws of their respective organizations.

Section 3. The Officers of the Association shall be the Officers of the Council.

Section 4. A Quorum of the Council shall consist of twenty Councilors.

Section 5. Meetings of the Council shall be called by the Executive Secretary at the request of the President, or at the request in writing of any twelve Councilors. In the latter case, the call to the meeting shall be issued at least twenty days in advance of the meeting and shall state the purpose for which it is called.

ARTICLE V GOVERNING COUNCIL FUNCTIONS

The functions of the Governing Council shall be:

Section 1. To establish and amend the By-Laws of the Association.

Section 2. To establish policies for the Association and for the guidance of the Executive Board and the Officers.

Section 3. To consider all resolutions proposed for approval in the name of the Associa-

tion, and to receive and act upon a report from a committee on resolutions appointed annually by the President.

Section 4. To approve all standards promulgated in the name of the Association.

Section 5. To receive at its first session at the time and place of the annual meeting of the Association, a report from the Chairman of the Executive Board in which the work, the accomplishments, and the financial status of the Association during the year preceding such annual meeting shall be reviewed and a statement made of the major activities contemplated for the ensuing year.

Section 6. To establish Sections of the Association; to combine or discontinue them when necessary; to prescribe the qualifications of the members of Section Councils and the chairmen of Section committees; to maintain coördination among Sections; and to formulate general rules governing their policies.

Section 7. To elect the Executive Board, the officers of the Association, with the exception of the Chairman of the Executive Board and the Executive Secretary, to elect Fellows, Honorary Fellows, Life Members, and Affiliated Societies, and to establish Regional Branches.

Section 8. To publish after each of its meetings an abstract of the minutes of such meeting.

ARTICLE VI OFFICERS

The officers of this Association shall be a President, a President-elect, three Vice-Presidents, an Executive Secretary, a Treasurer, and the Chairman of the Executive Board. The officers, with the exception of the Chairman of the Executive Board and the Executive Secretary, shall be elected by written ballot of the Governing Council as provided in this article and in the By-Laws. The President-elect shall serve as such from the close of the annual meetings at which he was elected to the close of the next annual meeting, when he shall automatically become President. As President he shall serve to the close of the next succeeding annual meeting. However, in case of the inability of the President to complete his term for any reason, the President-elect shall at once succeed to the duties of President, filling the unexpired term of his predecessor and his own term consecutively. Other officers, except the Chairman of the Executive Board and the Executive Secretary, shall serve from the close of the annual meeting when elected until the close of the next annual meeting, and all officers shall serve in any case until their successors are elected and qualified. A majority vote of the Councilors voting shall be required to elect, and if no candidate receives a majority vote on the first ballot, the candidate receiving the smallest number of votes shall be dropped after each ballot in succession until a majority vote is obtained. The Chairman of the Executive Board and the Executive Secretary shall be elected by the Executive Board, which Board shall define the duties and authority of these officers, respectively.

ARTICLE VII. EXECUTIVE BOARD

Section 1. There shall be an Executive Board, consisting of the President, the President-elect, the Treasurer, and six members, to be known as the Elective Members, elected for terms of three years each by the Governing Council. The Elective Members shall be at the time of their election past or present members of the Governing Council. The terms of the Elective Members shall begin at the close of the annual meeting at which they are elected and terminate at the end of the annual meeting at the expiration of their respective terms. The terms of two Elective Members shall expire each year in rotation.

Section 2. Acceptance of membership on the Executive Board shall terminate any appointment such Fellow may hold on any of the standing committees of the Association.

Section 3. It shall be the duty of the Executive Board to direct the administrative work of the Association; to act as the Trustee of the Association's properties; to elect the Members and Sustaining Members; and in general to carry out the policies of the Governing Council between meetings of the latter.

It may designate an Assistant Treasurer whose powers shall be limited to the disbursement of funds in accordance with duly authorized budgets for the ordinary conduct of Association business. Such power shall be exercised only during a period when, in the opinion of the Board, an emergency is created due to the absence or disability of the Treasurer. Such Assistant Treasurer may be a Fellow or a corporate fiduciary institution.

In the event of a vacancy in the office of Treasurer, the Executive Board shall have power to elect a Fellow to serve as Treasurer for the unexpired term.

It shall have such further powers and duties as may be prescribed in the By-Laws.

Section 4. A Quorum of the Executive Board shall consist of five members.

ARTICLE VIII AMENDMENTS

This Constitution may be amended by the Fellows of the Association voting thereon in a ballot cast by mail, provided that the specific amendment to be acted upon is published in the official publica-

tion of the Association not less than thirty days prior to the mailing of the ballots to the Fellows by the Administrative Office, and provided further that the amendment has received prior approval by the Governing Council. The closing date for the reception of ballots shall be forty-five days from the date of the mailing of the ballots by the Administrative Office. An amendment shall become effective only upon receiving an affirmative vote on two-thirds of the ballots cast by the Fellows. The President shall designate Tellers to canvass the ballots and to report the result to the Governing Council as provided in the By-Laws.

BY-LAWS

ARTICLE I FELLOWS

Section 1. Professional health workers who have been members of the Association for at least two years, and who are of established professional standing in the field of public health (whether employed by public or private organizations or in independent private practice) shall be eligible for election as Fellows, provided that the applicant shall have reached his thirtieth birthday at the time application for Fellowship is made and subject to the further conditions of this Article.

Section 2. The following persons shall be considered to have an established professional standing in public health for this purpose:

(a) A person who has rendered acceptable service for two or more years in a responsible public health position and who has been awarded in course a degree of Doctor of Public Health, Doctor of Science in Public Health, Doctor of Philosophy in Public Health, Doctor of Medicine with at least one year of graduate study in public health in a university, Master of Public Health, Diploma in Public Health or other equivalent degrees, according to standards approved by the Executive Board of the American Public Health Association.

(b) A person who has been awarded in course an academic or professional degree involving training in public health and who has been regularly engaged in health work for at least five years, having rendered meritorious service as a health officer or in responsible charge of work in either a public or private health agency.

(c) A person who has done notable original work in public health or preventive medicine of a character to give him a recognized standing.

(d) A person regularly engaged in health work for at least five years, who has given evidence of special proficiency, who has attained a recognized standing.

(e) A teacher of public health or one of its constituent sciences who has attained distinction as an expounder of the principles of public health or its constituent sciences. Such a teacher shall have had at least five years' experience as a teacher of public health subjects. Any years of experience as defined in paragraphs (b) and (d) that the applicant may have had shall be considered the equivalent of the same number of years' experience as a "teacher."

(f) A person not covered by the above, who has made substantial contributions to public health work in his chosen branch and who has attained a recognized professional standing.

Section 3. Every application for Fellowship shall be made on an approved form and shall be sponsored by two Fellows of the Association who shall be Fellows of the Section with which affiliation is desired, provided, however, that when affiliation with a Section is not desired, the sponsors may be any two Fellows in good standing in the Association. Fellows without Section affiliation shall be known as unaffiliated Fellows.

Section 4.

(a) When an application has been duly sponsored and otherwise completed, it shall be transmitted to the Administrative Office of the Association, which shall make note thereon of such knowledge as it may have concerning the standing of the applicant in the Association. The application shall be forwarded by the Administrative Office to the Secretary of the Section in which affiliation is desired for the action of the Section Council, and, when acted upon by the Section Council, he shall return it to the Administrative Office after he shall have endorsed thereon the action of the Section Council. When the application is for unaffiliated Fellowship, the Executive Board of the Association shall act in place of the Section Council. To be eligible for election, individuals applying for Fellowship under the provisions of subsections (a) and (b) of Section 2 of this Article shall require for approval a majority vote of the Section Council or the Executive Board. All other applicants shall require for aproval a two-thirds vote of such Section Council or the Executive Board.

(b) When the application has been ap-approved by the Section Council or the Execu-

tive Board, as above provided, it shall be voted upon by the Committee on Eligibility. Applications requiring a majority vote of the Section Council or Executive Board shall require for approval a majority vote of the Committee on Eligibility. All other applications shall require unanimous approval of the Committee on Eligibility. If approved, as above specified, and provided the name of the applicant shall have been officially published at least fifteen days in advance, the application shall be voted upon by the Governing Council, and if approved by three-fourths of the vote cast, the applicant shall be declared elected a Fellow.

Section 5.

(a) A Fellow may belong to and vote in only one Section, but such affiliation may be transferred to another Section if approved by vote of a majority of the Council of the latter Section. Unaffiliated Fellows may become affiliated with a Section if approved by vote of a majority of the Council of the Section with which affiliation is desired.

(b) Fellows shall have all the rights and privileges provided for Members in addition to those specifically reserved to them by the Constitution and By-Laws.

Section 6. Honorary Fellows may be elected by a three-fourths vote of the Governing Council for distinguished service in public health. Honorary Fellowship shall not confer voting power but Honorary Fellows who have previously been Fellows or members of the Association shall retain all the privileges of Fellowship or membership.

ARTICLE II MEMBERS

Section 1. Persons professionally engaged or interested in public health work shall be eligible for election as members by a three-fourths vote cast by the Executive Board when sponsored by two members or Fellows and after approval by the Committee on Eligibility. They shall be entitled to receive the official journal of the Association, to vote for the officers and members of the Council of the Section with which they are affiliated, and upon all motions and resolutions coming before such Section, to participate generally in its proceedings and to serve on committees, except as provided in the Constitution and By-Laws. A member may belong to and vote in only one Section, but such affiliation may be transferred to another Section if approved by vote of a majority of the Council of the Section to which change is desired. Unaffiliated members may become affiliated with a Section if approved by vote of a majority of the Council of the Section with which affiliation is desired.

Section 2. Individuals or corporations interested in public health may be elected to Sustaining Membership by a three-fourths vote of the Executive Board. Sustaining Members shall be entitled to receive the journal and such other publications of the Association as the Executive Board may designate.

Section 3. Upon the recommendation of the Committee on Eligibility, any individual member or Fellow of the Association may be elected a member for life. The dues for Life Members shall be $200.00 payable within one year after election. Election to this grade shall not affect the privileges held by such an individual as a regularly elected Member or Fellow.

ARTICLE III AFFILIATED SOCIETIES

Section 1. A state or provincial public health association or similar regional society including more or less than a state, primarily composed of professional public health workers and organized for the same general objects as the American Public Health Association, may be elected by a three-fourths vote of the Governing Council as an Affiliated Society, provided that not less than twenty of its active members and at least one-half of its active members are members or Fellows of the American Public Health Association. Not more than one such society shall be admitted from the same area.

Section 2. A society applying for affiliation shall submit a copy of its constitution and by-laws, its last annual budget, a roster of its members, and such other evidences of its qualifications as may be required. It shall submit annually and at other times such reports on its financial standing, membership, and other matters as may be required by the Executive Board of the American Public Health Association.

Section 3. The Committee on Eligibility shall consider all applications for affiliation and report its recommendations to the Governing Council.

ARTICLE IV DUES

Section 1. The following constituents shall be exempt from the payment of annual dues: Honorary Fellows, Life Members, Fellows and Members who have been affiliated with the Association for thirty years or more and who have retired from active duty, and Fellows and Members who have been affiliated with the Association for forty years regardless of retirement. The dues of all other constituents are payable annually in advance.

Section 2. The dues for Members shall be

$7.00, for Fellows $12.00, and for Sustaining Members $100.00 or more.

Section 3. The dues for Affiliated Societies shall be one per cent of their gross annual income, provided that the minimum dues per society shall be $10.00 per year, and provided further that for every Fellow or Member paying annual dues to the American Public Health Association, the Association shall remit to the Affiliated Society of which such person is a member the sum of $1.00 per annum.

ARTICLE V DISCONTINUANCE OF MEMBERSHIP

Section 1. Constituents of any class whose dues are unpaid for six months or more shall be considered not in good standing. Constituents not in good standing shall not be entitled to any of the privileges or powers of membership, Fellowship, or affiliation. Good standing may be resumed upon the payment of all arreas and dues in advance for one year, provided the lapsed period is not greater than one year. The Administrative Office shall notify by registered mail all constituents who have been in arrears for a period of eleven months. The names of constituents in any class whose dues remain unpaid for one year or more and who have been duly notified as above provided shall be presented to the Executive Board which shall order the names of such constituents stricken from the membership roll. Constituents whose names have been stricken from the rolls in this manner may be again admitted in the manner provided for the election of new constituents in the class for which they make application, provided such person or organization complies with the eligibility requirements at the time the new application is made.

Section 2. If, in the opinion of the Executive Board, any member or Fellow of the Association permits the use of his name, or otherwise allows himself to be quoted or used for illustration in the advertising of a commercial product, in such a manner as to reflect discredit upon the Association, his Fellowship or membership in the Association shall thereupon be terminated.

Section 3. Upon the recommendation of the Committee on Eligibility the Governing Council may discontinue the membership, Fellowship or affiliation of any constituent. Three-fourths of the votes cast shall be necessary for such action.

ARTICLE VI PUBLICATIONS

Section 1. All publications of the Association and of its Sections shall be issued under the direction of the Executive Board.

Section 2. *The American Journal of Public Health* shall be the official journal of the Association. The Executive Board shall appoint a Managing Editor of the official journal and an Editorial Board of not less than five members to serve at the pleasure of the Executive Board. All papers and reports for the annual meetings are to be accepted with the understanding that they shall be the property of the Association for publication, unless this right is waived by the Managing Editor.

ARTICLE VII ELECTIVE COUNCILORS

The Elective Members of the Governing Council shall be nominated and elected according to the following procedure and schedule. The times designated for the several steps shall date from the first day of the next annual meeting as designated by the Executive Board.

Section 1. There shall be a Nominating Committee composed of one Fellow elected by each Section at the preceding annual meeting, and an additional Fellow designated by the Executive Board, the latter serving as Chairman. This Committee shall present to the Administrative Office not less than six months before the annual meeting the names of at least twenty and not more than thirty Fellows of the Association selected with due regard to geographical and membership considerations as nominees for the Governing Council.

Section 2. The Administrative Office shall publish to the Fellowship not less than five months before the annual meeting the nominees selected by the Nominating Committee and at the same time shall announce the date on which the official ballots will be mailed to the Fellows.

Section 3. Upon the petition of twenty-five Fellows the Nominating Committee shall add the name of any Fellow to the nominees selected by it, provided such petition is received not less than three months before the annual meeting.

Section 4. Not less than two months previous to the annual meeting the Administrative Office shall mail to each Fellow entitled to vote an official ballot upon which the names of all nominees shall appear in order determined by lot. Accompanying each ballot shall be two envelopes, one marked "Ballot Envelope," into which the voter shall place his marked ballot. This envelope shall then be sealed and placed in the outer envelope which shall bear the signature and address of the voter.

Section 5. Only ballots received not later than one month before the annual meeting

shall be accepted and counted. No duplicate ballots shall be furnished to any Fellow.

Section 6. All ballots received prior to the closing date shall be placed in the custody of the Tellers unopened.

Section 7. The Fellows receiving the highest number of votes on a written ballot cast by the Fellows shall be declared elected to fill vacancies which will exist at the adjournment sine die of the Governing Council at the next annual meeting. Should two or more candidates receive the same number of votes, the Governing Council shall, when necessary, determine the order of precedence of such candidates.

Section 8. Not less than sixty days before the annual meeting the President shall appoint three Tellers from among the members of the Governing Council, one of whom shall be designated as Chairman. The Tellers shall canvass the vote on elective Councilors and on any amendment to the Constitution and shall report the result of all ballots cast to the Governing Council at its first meeting during the annual meeting.

ARTICLE VIII EXECUTIVE BOARD

Section 1. The Executive Board shall elect from its own membership a Chairman who shall serve in that capacity for such term as the Executive Board shall determine. It shall also designate such other officers of the Board as it may require for the conduct of its business.

Section 2. If a vacancy among the Elective Members of the Executive Board shall occur after the annual meeting, the President shall designate a nominating committee from the Governing Council. Such committee shall nominate not less than three candidates for the vacancy, from among whom the candidate receiving the highest number of votes of the Governing Council in a mail ballot shall be declared elected to the Executive Board to fill the vacancy.

Section 3. In addition to those prescribed in the Constitution and in these By-Laws, the Executive Board shall have the following powers and duties:

(a) To plan methods for the procurement of funds.

(b) To approve the budgets for the Association's work.

(c) To conform to the policies of the Governing Council in the conduct of its work.

(d) To designate the chairmen of the standing committees, to appoint their members unless otherwise provided by these By-Laws. To authorize the establishment of all other Association committees and confirm the appointment of their members.

(e) To transmit a report of its proceedings and transactions to the Governing Council at least thirty days before each annual meeting.

Section 4. After two consecutive terms of three years an elective member of the Executive Board, except one serving as chairman, shall be ineligible for reëlection during one Association year.

ARTICLE IX NOMINATION OF OFFICERS

The officers elected by the Governing Council shall be nominated from the floor by that body.

ARTICLE X STANDING AND SPECIAL COMMITTEES

Section 1. There shall be four standing committees of the Association as follows:

(a) Committee on Eligibility.

(b) Committee on Administrative Practice.

(c) Committee on Research and Standards.

(d) Committee on Professional Education.

Section 2. Each standing committee shall designate from among its membership such officers as it may require for the conduct of its business and shall control its policies within the limitations prescribed by the Governing Council and the Executive Board. The Executive Secretary shall be a member, ex-officio, and serve as secretary of each standing committee.

Section 3.

(a) The Committee on Eligibility shall consist of one Fellow to be elected by each Section and an additional Fellow elected by the Executive Board who shall serve as Chairman. Members shall serve for a term of two years.

(b) This committee shall pass upon the eligibility of Fellows, members and other constituents in accordance with the provisions of the By-Laws.

Section 4.

(a) The Committee on Administrative Practice shall consist of fifteen Fellows, twelve of whom shall be designated by the Executive Board to serve for a term of four years, the terms of three members expiring each year, and three members elected by and from the Fellows affiliated with the Health Officers Section, one of whom shall be elected annually for a term of three years. Following the adoption of this amendment one member shall be elected to serve for one year, one for two years and one for three years.

(b) This committee shall engage in the collection of information regarding current public health practices and analyze the material obtained to derive standards of organization and achievement. The findings and standards

may be made available to public health workers through publications, information and field service under such conditions as the committee may establish. No standards shall be promulgated as the official and authorized judgment of the Association except with the approval of the Governing Council.

Section 5.

(a) The Committee on Research and Standards shall consist of fifteen Fellows representative of the various Sections of the Association appointed by the Executive Board. Members shall serve for a term of three years, the terms of five members expiring each year.

(b) This committee shall be responsible for initiating, conducting, promoting, coördinating and reviewing research and development of standards in the technical branches of public health. This committee shall also be charged with the duty of reviewing from time to time standards already established. No standards shall be promulgated as the official and authorized judgment of the Association except with the approval of the Governing Council.

Section 6.

(a) The Committee on Professional Education shall consist of twelve Fellows appointed by the Executive Board. Members shall serve for a term of three years, the terms of four members expiring each year.

(b) This committee shall be responsible for carrying out research and the development of standards for professional education and training in public health work and shall perform such other functions as may be delegated to the committee by the Governing Council with the view of maintaining professional qualifications of high standard. No standards shall be promulgated as the official and authorized judgment of the Association except with the approval of the Governing Council.

Section 7. Unless otherwise provided in these By-Laws, all other Association Committees shall be authorized and appointed by the Executive Board and the appointments of their members shall expire at the next annual meeting.

ARTICLE XI SECTIONS

Section 1. The Executive Board shall approve rules and regulations relating to the government of the Sections, and to the appointment of administrative committees. Each Section shall elect its own officers and shall name its respective Section committees. The right to hold office or to serve as a member of a Section Council or as chairman of a committee in a Section shall be limited to the Fellows affiliated with such Section.

Section 2.

(a) The Section Chairman, with the advice of the Section Council, shall appoint a Committee on Nominations from the Fellows affiliated with the Section at least fifteen days before each annual meeting. The Section Secretary shall be a member of such committee.

(b) The names of the members of the Committee on Nominations shall be announced at the first meeting of the Section at each annual meeting of the Association. The Committee on Nominations shall present at the second meeting of the Section a list of nominees for the Section officers, and for membership in the Section Council; provided that if the name of any Fellow be transmitted to the Nominating Committee over the signature of ten Fellows of the Section prior to the second meeting of the Section, the Nominating Committee shall add the name of such Fellow to its own list of nominees.

Section 3. The officers of each Section shall be a Chairman, a Vice-Chairman, and a Secretary, who shall be the representatives of the Section to the Governing Council of the Association, except as provided in the Constitution.

Section 4. New terms shall begin and old terms shall expire at the end of annual meetings. After five consecutive years in any elective Section office, except that of Secretary, a member shall be ineligible to reëlection to that office during one Association year.

Section 5. The Chairman, or in his absence the Vice-Chairman, shall preside at meetings of the Section.

Section 6. The Secretary shall prepare the scientific program of the Section for the annual meeting, subject to the recommendations of the Section Council, and shall submit same to the Administrative Office. He shall keep the minutes and other records of the Section, and shall transmit to the Executive Secretary of the Association a copy of the minutes of both the business and scientific sessions as soon as practicable after the close of the annual meeting of the Association. When unable to be present at meetings, he shall thoroughly instruct a substitute as far in advance of the meeting as possible.

Section 7. There shall be a Section Council composed of the three officers of the Section and five members, to be known as the elective members, each of whom shall be elected for a term of five years; provided that when a Section is first established one member shall be elected to serve for one year, one for two, one for three, one for four, and one for five years.

Section 8. The duties of the Section Council shall be:

(a) To recommend papers, and to make general recommendations in relation to the annual meeting program.

(b) To advise on Section membership and on Section policies.

(c) To submit annually to the Governing Council through the Executive Board a report of the transactions of the Section.

(d) To report annually to the Governing Council through the Executive Board on the plans, scope and policy of the Section during the succeeding year.

(e) To formulate rules of procedure for the Section.

(f) To consider and transmit to the Governing Council resolutions originating in the Section. Only resolutions approved by the Governing Council shall be published as representing the policy of the Association.

(g) To advise on the publication of papers and reports presented at the Section meetings.

(h) To advise with respect to the appointment of technical committees, subcommittees, or Section representatives on committees of the Association.

ARTICLE XII FINANCES

All remittances to the Association shall be deposited to the account of the Treasurer. The Treasurer shall be custodian of investments of the Association and shall disburse funds in accordance with duly authorized vouchers. With the approval of the Executive Board he may establish a drawing account for the Executive Secretary, who shall send to members of the Executive Board a financial summary of receipts and disbursements each month. Once each month, or oftener if called for, he shall also forward to the Treasurer and to the Chairman of the Executive Board an itemized statement of all expenditures. The Executive Secretary, the Treasurer and the Assistant Treasurer shall be bonded at the expense of the Association in an amount to be determined by the Executive Board. The books of the Association shall be audited annually by certified public accountants to be appointed by the Executive Board.

ARTICLE XIII MEETINGS OF THE ASSOCIATION

There shall be one general meeting of the Association, to be known as the annual meeting which shall be held each year at a place selected by the Governing Council at a time designated by the Executive Board provided, however, that the Governing Council may determine by voting at a regular meeting or by ballots cast by mail, that the annual meeting for a stated calendar year shall not be held; and provided further, that in case of great emergency the Executive Board may defer any annual meeting for not to exceed three months. Special meetings of the Association may be called by a majority vote of the Governing Council, the Executive Board, or the Association. In all proceedings of the Association, *Robert's Rules of Order* shall be official.

ARTICLE XIV AMENDMENTS

These By-Laws may be amended by a two-thirds vote of those voting on the Governing Council during the annual meeting, provided that twenty-four hours prior written notice thereof has been given. The By-laws may further be amended by a two-thirds vote of those voting at any meeting of the Governing Council called for the purpose, provided that notice thereof shall have been given at least fifteen days prior to such meeting.

ANNUAL MEETINGS

Preliminary Meeting			New York, N. Y., April 18	1872
"	"		Long Branch, N. J., September 12	1872
1st	Annual	Meeting	Cincinnati, O., May 1–3	1873
2d	"	"	New York, N. Y., November 11–14	1873
3d	"	"	Philadelphia, Pa.	1874
4th	"	"	Baltimore, Md.	1875
5th	"	"	Boston, Mass.	1876
6th	"	"	Chicago, Ill.	1877
7th	"	"	Richmond, Va.	1878
8th	"	"	Nashville, Tenn.	1879
9th	"	"	New Orleans, La.	1880
10th	"	"	Savannah, Ga.	1881
11th	"	"	Indianapolis, Ind.	1882
12th	"	"	Detroit, Mich.	1883
13th	"	"	St. Louis, Mo.	1884
14th	"	"	Washington, D. C.	1885
15th	"	"	Toronto, Ont.	1886
16th	"	"	Memphis, Tenn.	1887
17th	"	"	Milwaukee, Wis.	1888
18th	"	"	Brooklyn, N. Y.	1889
19th	"	"	Charleston, S. C.	1890
20th	"	"	Kansas City, Mo.	1891
21st	"	"	Mexico City, Mex.	1892
22d	"	"	Chicago, Ill.	1893
23d	"	"	Montreal, Que.	1894
24th	"	"	Denver, Colo.	1895
25th	"	"	Buffalo, N. Y.	1896
26th	"	"	Philadelphia, Pa.	1897
27th	"	"	Ottawa, Ont.	1898
28th	"	"	Minneapolis, Minn.	1899
29th	"	"	Indianapolis, Ind.	1900
30th	"	"	Buffalo, N. Y.	1901
31st	"	"	New Orleans, La.	1902
32d	"	"	Washington, D. C.	1903
33d	"	"	Havana, Cuba	1904
34th	"	"	Boston, Mass.	1905
35th	"	"	Mexico City, Mex.	1906
36th	"	"	Atlantic City, N. J.	1907
37th	"	"	Winnipeg, Man.	1908
38th	"	"	Richmond, Va.	1909
39th	"	"	Milwaukee, Wis.	1910
40th	"	"	Havana, Cuba	1911
41st	"	"	Washington, D. C.	1912
42d	"	"	Colorado Springs, Colo.	1913
43d	"	"	Jacksonville, Fla.	1914
44th	"	"	Rochester, N. Y.	1915
45th	"	"	Cincinnati, O.	1916
46th	"	"	Washington, D. C.	1917
47th	"	"	Chicago, Ill.	1918
48th	"	"	New Orleans, La.	1919
49th	"	"	San Francisco, Calif.	1920
50th	"	"	New York, N. Y.	1921
51st	"	"	Cleveland, O.	1922
52d	"	"	Boston, Mass.	1923
53d	"	"	Detroit, Mich.	1924
54th	"	"	St. Louis, Mo.	1925
55th	"	"	Buffalo, N. Y.	1926

ANNUAL MEETINGS (Cont.)

56th	Annual	Meeting	Cincinnati, O.	1927
57th	"	"	Chicago, Ill.	1928
58th	"	"	Minneapolis, Minn.	1929
59th	"	"	Fort Worth, Tex.*	1930
60th	"	"	Montreal, Que.	1931
61st	"	"	Washington, D. C.	1932
62d	"	"	Indianapolis, Ind.	1933
63d	"	"	Pasadena, Calif.	1934
64th	"	"	Milwaukee, Wis.	1935
65th	"	"	New Orleans, La.†	1936
66th	"	"	New York, N. Y.	1937
67th	"	"	Kansas City, Mo.	1938
68th	"	"	Pittsburgh, Pa.	1939
69th	"	"	Detroit, Mich.	1940
70th	"	"	Atlantic City, N. J.	1941
71st	"	"	St. Louis, Mo.	1942
72d	"	"	(Wartime Conference) New York, N. Y.	1943
73d	"	"	(Wartime Conference) New York, N. Y.	1944
			No Meeting	1945
74th	"	"	Cleveland, Ohio	1946
75th	"	"	Atlantic City, N. J.	1947
76th	"	"	Boston, Mass.	1948

* Post-Convention Meeting, Mexico City, Mex., 1930.
† Post-Convention Meeting, Havana, Cuba, 1936.

PUBLICATIONS OF THE A.P.H.A.

An Appraisal Method for Measuring the Quality of Housing: A Yardstick for Health Officers, Housing Officials and Planners.
- Part I. Nature and Uses of the Method.
- Part II. Appraisal of Dwelling Conditions.
- Part III. Appraisal of Neighborhood Environment (in preparation).

Basic Principles of Healthful Housing. 2nd ed.
The Control of Communicable Diseases. 6th ed.
Diagnostic Procedures and Reagents. 2nd ed.
Directory of Public Health Statisticians, 4th ed. Oct., 1948.
Health Practice Indices, 1943–1946.
Methods for Determining Lead in Air and in Biological Materials.
Occupational Lead Exposure and Lead Poisoning.
Panum on Measles.
Photographic Sediment Chart, 1947 ed.
Planning the Neighborhood, Committee on the Hygiene of Housing, 1948.
Proceedings of the National Conference on Local Health Units. Supplement to A.J.P.H., Jan., 1947.
Public Health: A Career with a Future.
Public Health in Midstream. Supplement to A.J.P.H., Jan., 1948.
Shellfish and Shellfish Waters, Recommended Methods of Procedure for Bacteriological Examination of.
Standard Methods for the Examination of Water and Sewage. 9th ed., 1946.
Standard Methods for the Examination of Dairy Products. 9th ed., 1948.
Swimming Pools and Other Public Bathing Places, Recommended Practice for Design, Equipment and Operation of.
Diagnostic Procedures in Virus and Rickettsial Diseases. 1948.

Staff of the American Public Health Association

Professional and Administrative Personnel

Central Office, 1790 Broadway, New York 19, N. Y.

Reginald M. Atwater, M.D., Executive Secretary and Managing Editor, *American Journal of Public Health*
Jeanne L. Bickel, Office Manager and Accountant
Edith M. Boyd, Associate Secretary, Committee on Administrative Practice
Francis B. Elder, Engineering Associate
William T. Ingram, Engineering Field Associate
Augusta Jay, Editorial Associate
Roscoe P. Kandle, M.D., Field Director
Erminie C. Lacey, Statistician
Martha Luginbuhl, Research Assistant
Franziska W. Racker, M.D., Director, Vocational Counseling and Placement Service, and Associate Secretary, Committee on Professional Education
Robert E. Rothermel, M.D., Assistant Field Director
Elsie A. Siemer, Membership Secretary
Willimina Rayne Walsh, Associate Secretary
C.-E. A. Winslow, Dr.P.H., Editor, *American Journal of Public Health*

Merit System Service, 1790 Broadway, New York 19, N. Y.

Charles B. Frasher, Field Consultant
Elaine Grimm, Psychometrician
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Lillian D. Long, Ph.D., Associate Director
Helen Wall, Office Manager

Subcommittee on the Hygiene of Housing, 321 Congress Ave., New Haven, Conn.

Carl Anderson, Assistant Field Director
Eleanor Watkins, Secretary

Subcommittee on Medical Care, P. O. 5998, Bethesda, Md.

Nathan Kramer, Administrative Assistant
Harriet Sullivan, Secretary
Milton I. Terris, M.D., Staff Director

SCIENTIFIC EXHIBIT CITATIONS BOSTON ANNUAL MEETING

At the 76th Annual Meeting in Boston 43 exhibitors participated in the Scientific Exhibit presented under the auspices of the Scientific Exhibits Committee, of which Franklin M. Foote, M.D., is *Chairman*. The members are:

Paul H. Brown, M.D.
Homer N. Calver
Vivian Drenckhahn
Francis B. Elder
Horace Hughes
S. S. Lifson
Willimina Rayne Walsh

Members of the committee judged the exhibits using the following criteria:

1. Obvious public interest and attraction
2. New contribution to public health and toward better understanding
3. Clarity of presentation
4. The factor of expense of production—an inexpensively constructed exhibit, for example, that tells a good story.
5. Appropriateness for the audience

While the committee was unanimous in acclaiming the high quality of all the exhibits, it cited six outstanding exhibits as follows:

1. An Exhibit Is an Exhibit Is an Exhibit—But What Is That?—Henriette Strauss
2. Boston Health Department
3. Brookline Health Department
4. Iowa State Department of Health
5. National Tuberculosis Association
6. U. S. Public Health Service

The committee ruled out of consideration for citation exhibits sponsored by the Association itself, but declared that two were deserving of special mention. They were:

1. The Merit System
2. Health Education and Publicity Headquarters

The Association acknowledges with deep appreciation its indebtedness to its Sustaining Members whose annual dues help support the Association's general program

Sustaining Members of the American Public Health Association

American Bottlers of Carbonated Beverages, Washington, D. C.
Ames Company, Inc., Elkhart, Ind.
Association for the Aid of Crippled Children, New York, N. Y.
Borden Company, New York, N. Y.
Chlorine Institute, Inc., New York, N. Y.
Difco Laboratories, Inc., Detroit, Mich.
Diversey Corporation, Chicago, Ill.
Equitable Life Assurance Society of the United States, New York, N. Y.
John Hancock Mutual Life Insurance Company, Boston, Mass.
Hellige, Inc., Long Island City, N. Y.
Hoffman-La Roche, Inc., Nutley, N. J.
Holland-Rantos Company, Inc., New York, N. Y.
International Association of Ice Cream Manufacturers, Washington, D. C.
International Equipment Company, Boston, Mass.
Josam Manufacturing Company, Cleveland, Ohio
Lederle Laboratories Division, American Cyanamid Co., New York, N. Y.
Liberty Mutual Insurance Company, Boston, Mass.
Life Insurance Co. of Virginia, Richmond, Va.
Macmillan Company, New York, N. Y.
George W. Merck, Rahway, N. J.
Metropolitan Life Insurance Company, New York, N. Y.
National Life Insurance Co., Montpelier, Vt.
Oval Wood Dish Corp., Tupper Lake, N. Y.
Prudential Insurance Company of America, Newark, N. J.
Sealright Company, Inc., Fulton, N. Y.
Sharp and Dohme, Inc., Glenolden, Pa.
E. R. Squibb and Sons, New York, N. Y.
Sun Life Insurance Company, Baltimore, Md.
Travelers Insurance Company, Hartford, Conn.
Union Central Life Insurance Company, Cincinnati, Ohio
Upjohn Company, Kalamazoo, Mich.
West Disinfecting Co., Long Island City, N. Y.
Western and Southern Life Insurance Company, Cincinnati, Ohio
Winthrop-Stearns, Inc., New York, N. Y.
Wyeth, Inc., Philadelphia, Pa.

A.P.H.A. AFFILIATED SOCIETIES AND BRANCHES

Society and Secretary

Arizona Public Health Association, Helen Rotthaus, State Dept. of Health, Phoenix
Colorado Public Health Association, Sara L. Harrison, Westwood Public Schools, Denver
Connecticut Public Health Association, Muriel F. Bliss, Ph.D., 65 Wethersfield Ave., Hartford
Cuban Public Health Society, Dr. Raphael Calvo Fonseca, San Rafael 1170, Havana
Florida Public Health Association, Fred B. Ragland, P. O. Box 210, Jacksonville
Georgia Public Health Association, Annie J. Taylor, State Department of Health, Atlanta
Idaho Public Health Association, A. W. Klotz, State Department of Health, Boise
Illinois Public Health Association, Harold M. Cavins, Ed.D., 805 Sixth St., Charleston
Iowa Public Health Association, L. E. Chancellor, State Department of Health, Des Moines
Kansas Public Health Association, Evelyn Ford, State Board of Health, Topeka
Massachusetts Public Health Association, Elizabeth K. Caso, 695 Huntington Ave., Boston
Michigan Public Health Association, Marjorie Delavan, State Department of Health, Lansing
Minnesota Public Health Conference, D. S. Fleming, M.D., State Dept. of Health, Univ. Campus, Minneapolis
Missouri Public Health Association, B. E. Ordelheide, State Division of Health, Jefferson City
New Mexico Public Health Association, Mary M. Gilliland, Box 711, Santa Fe
North Dakota Public Health Association, Margaret L. Watts, State Dept. of Health, Bismarck
Northern California Public Health Association, L. Amy Darter, 125 Panoramic Way, Berkeley
Ohio Federation of Public Health Officials, Dr. Warren P. S. Hall, 4618 Commonwealth, Toledo
Pennsylvania Public Health Association, J. Clarence Funk, R.F.D. 1, Box 122, Fayetteville
Public Health Association of New York City, Charles A. Freck, 159-29 90th Ave., Jamaica, N. Y.
Puerto Rico Public Health Association, Rafael Pirazzi, Box 7155, San Juan
South Carolina Public Health Association, Carrie B. Du Priest, State Board of Health, Columbia
South Dakota Public Health Association, Clarence E. Sherwood, M.D., 109 Center St. W., Madison
Southern California Public Health Association, Ellarene L. MacCoy, M.D., 215 W. 5 St., Los Angeles
Tennessee Public Health Association, Monroe F. Brown, M.D., State Department of Health, 420 Sixth Ave., N., Nashville
Texas Public Health Association, Earle W. Sudderth, Dallas Co. Health Dept., Dallas
Utah Public Health Association, Dean A. Anderson, Ph.D., Brigham Young Univ., Provo
Washington State Public Health Association, Sam I. Reed, Kitsap County Health Dept., Bremerton
West Virginia Public Health Association, Annette King, State Department of Health, Charleston
Southern Branch, A.P.H.A., George A. Denison, M.D., Box 2591, Birmingham, Ala.
Western Branch, A.P.H.A. Walter S. Mangold, Univ. of California, Berkeley, Calif.

American Public Health Association

SECTION COUNCILS

1948–1949

Dental Health Section

(Organized 1943)

Philip E. Blackerby, Jr., D.D.S., *Chairman,* W. K. Kellogg Foundation, Battle Creek, Mich.
Leon R. Kramer, D.D.S., *Vice-Chairman,* Hillcrest, Route 4, Topeka, Kans.
Lester A. Gerlach, D.D.S., *Secretary,* City Health Dept., Milwaukee, Wis.
Margaret H. Jeffreys (1953)
Walter J. Pelton, D.D.S. (1952)
Thomas W. Clune, D.M.D. (1951)
Allen O. Gruebbel, D.D.S. (1950)
Kenneth A. Easlick, D.D.S. (1949)

Engineering Section

(Organized 1911)

M. Allen Pond, *Chairman,* U. S. Public Health Service, Washington, D. C.
Charles L. Senn, *Vice-Chairman,* City Health Dept., Los Angeles, Calif.
George O. Pierce, *Secretary,* University of Minnesota, Minneapolis, Minn.
John M. Hepler, C.E. (1953)
W. Scott Johnson (1952) *
Ernest G. Eggert (1951)
Alfred H. Fletcher (1950)
Sol Pincus, C.E. (1949)

* Deceased

Epidemiology Section

(Organized 1929)

John J. Phair, M.D., *Chairman,* Louisville-Jefferson County Health Dept., Louisville, Ky.
Hollis S. Ingraham, M.D., *Vice-Chairman,* State Dept. of Health, Albany, N. Y.
Franklin H. Top, M.D., *Secretary,* Herman Kiefer Hospital, Detroit, Mich.
John E. Gordon, M.D. (1953)
Harold W. Brown, M.D. (1952)
Herman E. Hilleboe, M.D. (1951)
Charles E. Smith, M.D. (1950)
Carl C. Dauer, M.D. (1949)

Food and Nutrition Section

(Organized 1917)

Paul S. Prickett, Ph.D., *Chairman,* Mead Johnson & Co., Evansville, Ind.
Margaret C. Moore, *Vice-Chairman,* State Dept. of Health, New Orleans, La.
Alice H. Smith, *Secretary,* State Dept. of Health, Lansing, Mich.
Frances MacKinnon (1953)
Lloyd B. Jensen, Ph.D. (1952)
Marietta Eichelberger, Ph.D. (1951)
William H. Sebrell, Jr., M.D. (1950)
Donald K. Tressler, Ph.D. (1949)

Health Officers Section

(Organized 1908)

Stanford F. Farnsworth, M.D., *Chairman,* City Health Dept., Oakland, Calif.
John M. Whitney, M.D., *Vice-Chairman,* American National Red Cross, Washington, D. C.
Joseph G. Molner, M.D., *Secretary,* Department of Health, Detroit, Mich.
C. Howe Eller, M.D. (1953)
Richard F. Boyd, M.D. (1952)
Carl N. Neupert, M.D. (1951)
Emil E. Palmquist, M.D. (1950)
Joseph H. Kinnaman, M.D. (1949)

Industrial Hygiene Section

(Organized 1914)

William G. Fredrick, Sc.D., *Chairman,* Department of Health, Detroit, Mich.
Leonard Greenburg, M.D., *Vice-Chairman,* State Dept. of Labor, New York, N. Y.
Richard T. Page, *Secretary,* Department of Health, Kansas City, Mo.
Carl M. Peterson, M.D. (1953)
Helmuth H. Schrenk, Ph.D. (1952)
T. Lyle Hazlett, M.D. (1951)
Kenneth M. Morse (1950)
Herbert G. Dyktor (1949)

Laboratory Section

(Organized 1899)

Howard J. Shaughnessy, Ph.D., *Chairman,* State Dept. of Health, Chicago, Ill.
Geoffrey Edsall, M. D., *Vice-Chairman,* Div. of Biologic Labs., State Dept. of Health, Jamaica Plain, Mass.
Albert H. Harris, 2nd, M.D., *Secretary,* State Dept. of Health, Albany, N. Y.
Edmund K. Kline, Dr.P.H. (1953)

Sara E. Branham, M.D. (1952)
Walter L. Mallmann, Ph.D. (1951)
John F. Mahoney, M.D. (1950)
C. A. Perry, Sc.D. (1949)

Maternal and Child Health Section

(Organized 1921)

Sarah S. Deitrick, M.D., *Chairman*, U. S. Children's Bureau, Washington, D. C.
Samuel B. Kirkwood, M.D., *Vice-Chairman*, Harvard School of Public Health, Boston, Mass.
Edward Davens, M.D., *Secretary*, State Dept. of Health, Baltimore, Md.
Edward R. Schlesinger, M.D. (1953)
Louis Spekter, M.D. (1952)
Francis V. Corrigan, M.D. (1951)
Paul R. Ensign, M.D. (1950)
Ruth J. Raattama, M.D. (1949)

Medical Care Section

(Organized 1948)

Edward S. Rogers, M.D., *Chairman*, University of California, Berkeley, Calif.
Edwin L. Crosby, M.D., *Vice-Chairman*, Johns Hopkins Hospital, Baltimore, Md.
Milton Terris, M.D., *Secretary*, P. O. Box 5998, Bethesda, Md.
Dean A. Clark, M.D.
Edwin F. Daily, M.D.
Herbert L. Lombard, M.D.
Ellen C. Potter, M.D.
Marian G. Randall, R.N.

Public Health Education Section

(Organized 1922)

A. Helen Martikainen, *Chairman*, State Board of Health, Raleigh, N. C.
Bess Exton, *Vice-Chairman*, 3704 Prestwick Drive, Los Angeles, Calif.
Donald A. Dukelow, M.D., *Secretary*, American Medical Association, Chicago, Ill.
Granville W. Larimore, M.D. (1953)
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American Public Health Association

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1948–1949

THE ASSOCIATION COMMITTEE LISTS

These pages again bring to the readers the lists of Association officers and Committee members. Once again they make a goodly company representing altogether more than 150 committees and other councils, a capable and loyal group of workers.

A certain proportion of the names of those formerly carried on such lists do not appear here. They have the Association's thanks for work well done in other years and for the fine spirit in which they have recognized the fact that, for the sake of the Association and its future effectiveness, leadership must be shared and leaders constantly developed through the assumption of responsibility. Our Association is stronger today because leaders periodically have stepped aside in order that others may step forward to acquire such knowledge as they themselves have gained.

Change in leadership is an accepted policy in the Association. Such a professional society is never strong if an informed few lead many uninformed though loyal followers. A strong association is composed of leaders many of whom could at any time take their turn and lead.

As we gratefully acknowledge the debt to those who have rendered their service as they carried their responsibilities of office, we turn with hope and expectation of other achievements to the men and women who are now to lead.

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Leslie Silverman, Sc.D.
William N. Witheridge

Committee on Inter-Society Coöperation

J. J. Bloomfield, *Chairman,* U. S. Public Health Service, Washington, D. C.
Herbert G. Dyktor
Lloyd M. Farner, M.D.
Leonard Greenburg, M.D.
T. Lyle Hazlett, M.D.
Kenneth M. Morse
Frank A. Patty
C. M. Peterson, M.D.
Lester M. Petrie, M.D.
C. O. Sappington, M.D.

Committee on Metallic Poisons

Robert A. Kehoe, M.D., *Chairman,* Kettering Laboratory of Applied Physiology, Cincinnati, Ohio
Edgar C. Barnes
H. B. Elkins, Ph.D.
J. William Fehnel
Lawrence T. Fairhall, Ph.D.
William G. Fredrick, Sc.D.
May R. Mayers, M.D.

Committee on Methods of Examining Dusty Air

Dohrman H. Byers, *Chairman,* U. S. Public Health Service, Washington, D. C.
Clyde M. Berry, Ph.D.
Carlton E. Brown, Sc.D.
Frederick H. Goldman, Ph.D.
Leonard Greenburg, M.D.
Theodore F. Hatch
Fred R. Ingram
Leslie Silverman, Sc.D.

Committee on Pneumoconiosis

Leonard Greenburg, M.D., *Chairman,* State Department of Labor, New York, N. Y.
Waldemar C. Dreessen, M.D.
Lloyd E. Hamlin, M.D.
Theodore F. Hatch
Dudley A. Irwin, M.D.
D. F. O. Kaltreider, Jr., M.D.
O. A. Sander, M.D.

Committee on Volatile Solvents

James H. Sterner, M.D., *Chairman,* Eastman Kodak Company, Rochester, N. Y.
Warren A. Cook
H. B. Elkins, Ph.D.
William G. Fredrick, Sc.D.
Don D. Irish, Ph.D.
Helmuth H. Schrenk, Ph.D.
Henry F. Smyth, Jr., Ph.D.
W. F. Von Oettingen, M.D.
William P. Yant

Laboratory Section

Committee on Antibiotics

(Chairman and members to be appointed.)

Laboratory Section Archivist:

Anna M. Sexton, State Department of Health, Albany, N. Y.

Committee on Salaries

Malcolm H. Merrill, M.D., *Chairman,* State Health Department, Berkeley, Calif.
Katharine E. Cox
Albert V. Hardy, M.D.
Edmund K. Kline, Ph.D.
Francis C. Lawler, Sc.D.
Lawrence J. Peterson
James T. Ritter

See Coördinating Committee on Laboratory Methods under the Committee on Research and Standards for Laboratory Methods Committees and their Personnel.

Maternal and Child Health Section

Committee on Membership and Fellowship

Paul R. Ensign, M.D., *Chairman,* State Board of Health, Topeka, Kan.
Hester B. Curtis, M.D.
T. Paul Haney, M.D.
Edythe P. Hershey, M.D.
Herbert R. Kobes, M.D.
Kenneth S. Landauer, M.D.
Hans Meyer, M.D.
Edward R. Schlesinger, M.D.
Allan C. Thurman, M.D.

Program Committee

Edward Davens, M.D., *Chairman,* State Department of Health, Baltimore, Md.
Katherine Bain, M.D.
Samuel R. Berenberg, M.D.
Amos Christie, M.D.
Samuel B. Kirkwood, M.D.
Louis Spekter, M.D.
Leon Sternfeld, M.D.
Harold C. Stuart, M.D.
Myron E. Wegman, M.D.
Samuel M. Wishik, M.D.

Public Health Education Section

Cross Section Committees

(Personnel to be appointed)

Committee on Case Studies in Community Organization

Lucy S. Morgan, Ph.D., Chairman, University of North Carolina, Chapel Hill, N. C.
Vivian Drenckhahn, *Vice-Chairman*

Committee on Materials and Techniques

Beryl J. Roberts, *Chairman,* Harvard University School of Public Health, Boston, Mass.
Yolande Lyon, *Vice-Chairman*

Committee on Public Health Education Planning

Mayhew Derryberry, Ph.D., *Chairman,* U. S. Public Health Service, Washington, D. C.
Ann W. Haynes, *Vice-Chairman*

Committee on Public Health Films

Kenneth D. Widdemer, *Chairman,* 15 Meadow Avenue, Bronxville, N. Y.

Committee on Utilization of Commercial Advertising for Health Education

Mary P. Connolly, *Chairman,* University of Michigan, Ann Arbor, Mich.
Homer N. Calver, *Vice-Chairman*

School Health Section

Planning Committee for Health Education and Publicity Headquarters

Marjorie L. Craig, *Chairman*, Metropolitan Life Insurance Co., New York, N. Y.
Vera H. Brooks
Marian V. Fegley
S. S. Lifson
Bosse B. Randle
Mary V. Rappaport
Alice H. Smuts
Ernest I. Stewart, Jr.
George M. Wheatley, M.D.
Pauline Brooks Williamson

Study Committee on Health Content of Textbooks

Holger F. Kilander, Ph.D., *Chairman*, Office of Education, Washington, D. C.
Fred V. Hein, Ph.D.
Harold H. Mitchell, M.D.

Study Committee on Health Service Records

Dorothy B. Nyswander, Ph.D., *Chairman* University of California School of Public Health, Berkeley, Calif.
Jessie M. Bierman, M.D.
Cyrus H. Maxwell, M.D.
David A. Van der Slice, M.D.
George M. Wheatley, M.D.

Statistics Section

Committee on Cancer Statistics

Eschscholtzia L. Lucia, Ph.D., *Chairman*, State Department of Public Health, San Francisco, Calif.
Harold F. Dorn, Ph.D.
Martha C. Eaton
E. C. Hammond, Sc.D.
Eleanor J. MacDonald

Committee on Marriage and Divorce Statistics

Elizabeth Parkhurst, *Chairman*, State Department of Health, Albany, N. Y.
William M. Haenszel
Samuel C. Newman, Ph.D.
H. G. Page

Committee on Medical Care Statistics

W. Thurber Fales, Sc.D., *Chairman*, City Department of Health, Baltimore, Md.
Margaret C. Klem
Selwyn D. Collins, Ph.D.
Nathan Sinai, Dr.P.H.
Dean A. Clark, M.D.

Committee on Membership and Directory

Iwao M. Moriyama, Ph.D., *Chairman*, National Office of Vital Statistics, Washington, D. C.
Marjorie T. Bellows
Clara E. Councell, Ph.D.
Marguerite F. Hall, Ph.D.
Elliott H. Pennell
Samuel Shapiro

Committee on Occupational and Industrial Mortality Statistics

Robert J. Vane, *Chairman*, Metropolitan Life Insurance Co., New York, N. Y.
William M. Gafafer, D.Sc.
J. D. B. Scott
Robert C. Strauss

Committee on Opportunities and Functions of Statisticians

Paul M. Densen, Sc.D., *Chairman*, Veterans Administration, Washington, D. C.
Antonio Ciocco, D.Sc.
Halbert L. Dunn, M.D.
Mary A. Ross, Ph.D.
Oswald K. Sagen, Ph.D.
Alan E. Treloar, Ph.D.
Howard West, Ph.D.

Committee on Sampling Techniques in Public Health Statistics

Theodore D. Woolsey, *Chairman*, U. S. Public Health Service, Washington, D. C.
Nathan Keyfitz
Margaret P. Martin, Ph.D.
Felix E. Moore, Jr.

Representatives of the American Public Health Association to Other Organizations and Committees for 1949

Advisory Council on Medical Education
William P. Shepard, M.D.
James A. Doull, M.D., alternate

American Association for the Advancement of Science
Reginald M. Atwater, M.D.
C.-E. A. Winslow, Dr.P.H.

American Association of Teachers Colleges Committee on Standards and Survey
Jessie M. Bierman, M.D.,
Representing the School Health Section

American Documentation Institute (1946–1950)
Halbert L. Dunn, M.D.

American Hospital Association (liaison representative)
Charles F. Wilinsky, M.D.

American Society of Health and Ventilation Engineers—Advisory Committee
Charles F. Wilinsky, M.D.

American Society for Testing Materials—Committee on Soap
Carl R. Fellers, Ph.D.

American Standards Association
Building Code Correlating Committee (1947–1949)
J. Lloyd Barron, C.E.

Letter Symbols and Abbreviations for Science and Engineering
Earle B. Phelps

Safety Code for Dry Cleaning Establishments
H. H. Schrenk, Ph.D.
H. G. Dyktor, alternate

Sectional Committee on Allowable Concentrations of Toxic Dusts and Gases
J. J. Bloomfield

Sectional Committee on Bedding and Upholstery—Subcommittee on Sterilization
F. J. Maier

Sectional Committee on Building Code Requirements for Light and Ventilation
Rollo H. Britten
C.-E. A. Winslow, Dr.P.H.

Sectional Committee on Minimum Requirements for Plumbing and Standardization of Plumbing Equipment, A-40 and Subcommittee No. 1
M. Warren Cowles
Sol Pincus, C.E.

Sectional Committee on Places of Outdoor Assembly
J. Lloyd Barron, C.E.

Sectional Committee on School Lighting
Leonard Greenburg, M.D.
Joel I. Connolly, alternate

Sectional Committee on the Safety Code for Exhaust Systems Z-9
Allen D. Brandt, Sc.D.

Sectional Committee on the Safety Code for Industrial Sanitation in Manufacturing Establishments
Leonard Greenburg, M.D.
Kenneth E. Markuson, M.D., alternate

Sectional Committee on Safety in Electric and Gas Welding and Cutting Operations, Z-49
Allen D. Brandt, Sc.D.

Ventilation Code
Earle B. Phelps

American Trudeau Society, National Tuberculosis Association, and the American Hospital Association (Joint with the A.P.H.A.)
Joseph G. Molner, M.D.

Biological Stain Commission
Edmund K. Kline, Dr.P.H.

Board to Certify Non-Medical Experts in Human Nutrition
Charles G. King, Ph.D.

Children's Bureau
Committee on Maternal and Child Health and Crippled Children's Services
Dean W. Roberts, M.D.
A. L. Van Horn, M.D.
Myron E. Wegman, M.D.

Council on Rheumatic Fever
David D. Rutstein, M.D.
George M. Wheatley, M.D.

Interim Commission on Chronic Disease
Dean W. Roberts, M.D.
Edward S. Rogers, M.D.

Joint Committee for the Coördination of Medical Activities
Reginald M. Atwater, M.D.

Joint Committee on Water and Sewage Works Terms (Joint with the American Society of Civil Engineers, the American Water Works Association and Federation of Sewage Works Associations)
Sol Pincus, C.E.

National Advisory Committee for Brucellosis Eradication
James P. Leake, M.D.

National Bureau of Standards—Standing Committee on Insect Wire Screening TS-3977
C. C. Kiker

National Conference for Coöperation in Health Education
Charles C. Wilson, M.D.

National Conference on Uniform Traffic Accident Statistics
Robert J. Vane

National Council on Rehabilitation
Hart E. Van Riper, M.D.

National Health Council
Reginald M. Atwater, M.D.
Louis I. Dublin, Ph.D.
Ernest L. Stebbins, M.D.

National Organization for Public Health Nursing
Committee on Study of Costs in Public Health Nursing
Abel Wolman, Dr.Eng.

Joint Committee on Community Nursing Service
Alfred L. Burgdorf, M.D.

School Health Committee
Mary E. Spencer, Ph.D.,
Marjorie Young,
Representing the School Health Section

National Research Council
Food and Nutrition Board
To be appointed.

National Safety Council
Home Safety Advisory Committee
Edward S. Rogers, M.D.

National Committee on Films for Safety
Harry E. Kleinschmidt, M.D.

National Technological Civil Protection Committee
Abel Wolman, Dr.Eng.
Arthur E. Gorman, alternate

Office of Civil Defense Planning
Medical Advisory Committee
Bruce H. Douglas, M.D.

Selection Board for World Health Organization Fellowships
Hugh R. Leavell, M.D.

U. S. Department of Agriculture
Poultry Industry Advisory Committee
Earle G. Brown, M.D.
Ferdinand A. Korff

U. S. National Commission for UNESCO Second National Conference
Howard Whipple Green

Report of the Chairman of the Executive Board of the American Public Health Association to the Governing Council, 1947-1948

As the Association marked in 1947 the 75th anniversary of its founding, the Chairman of the Executive Board called the attention of the Governing Council to the growing pains that had been experienced in the organization during the preceding year. The Association with its dynamic program had outgrown its headquarters, staff, and its previously defined boundaries, and the Executive Board, it will be recalled, with the staff had given extended time to the solution of the attendant problems. These involved changes in the Constitution and By-Laws, a complete appraisal and renovation of the mechanics of the Annual Meeting, rearrangement with reference to editorial responsibilities of the *Journal,* the establishment of a new Association-wide Coördinating Committee on Laboratory Methods, and many other growing changes.

The year now ending has again reflected the growth of a dynamic organization in touch with the times and changing its structure from time to time to meet the changing conditions. This is a wholesome process.

INCOME FROM MEMBERSHIP AND SPECIAL FUNDS

At the 1947 Annual Meeting the Governing Council voted to increase Association dues from $5 to $7 for members and from $10 to $12 for Fellows. Life Membership dues were increased from $100 to $200. This was the first change in membership dues in 75 years. The Council will wish to know the result of this decision on the membership income of the Association.

The renewal rate for 1948 has stood very close to that for 1947, the figures as of September 1 being 91.3 per cent for 1948 and 93.3 per cent for 1947. The 1948 applications for Fellowship stand at a high level, namely 261 as compared with 142 for 1947. Life Membership applications were received at the old rate up to December 31, 1947, and the Council will act this year on 164 applications, an all-time high. In the 12 months since the last Report to the Council (as of September 1) there were 1,227 applications for membership in the Association. This compares with a 5 year average in the preceding period of 1,377. The total membership as of September 1, 1948, stood at 11,531.

The Executive Board regards this record as very gratifying and it believes that the Governing Council was well advised to take the steps in 1947 which revised the financial structure in this way. Membership income, including that from members, Fellows, Affiliated Societies, Branches, and Sustaining Members, is expected to reach $82,160 in 1948, an increase of $15,460 over the actual income for 1947. Most of this difference goes back to the change in dues.

MEMBERSHIP INCOME AND THE ASSOCIATION BUDGET

The Chairman of the Executive Board believes that the Governing Council

members should understand the fundamental nature of this membership income in the Association budget. It represents the only large amount of unallocated funds at the disposal of the Executive Board. It is possible to provide from this source those funds necessary to publish and distribute the *American Journal of Public Health*, to operate the Annual Meeting, and to maintain the most essential parts of the committee structure through which professional goals are progressively achieved. These may be described as the basic functions of any professional society.

It is evident to anyone familiar with the A.P.H.A. that there are many activities carried out over the years above and beyond this limited service. To a very large extent the activities of the Committee on Administrative Practice during the last 28 years have been financed by grants and other income outside this nucleus at the disposal of the Association. During this period funds of at least $800,000 have been contributed by foundations, life insurance companies, and governments to make possible the work of this one Standing Committee of the Association. As a result field consultation services have been available, often at no cost or at a fraction of the actual cost, to states and municipalities wishing to use them. Surveys have been made, evaluation methods have been developed, and summaries have been published (as in *Health Practice Indices*) that have been distinctly useful.

Likewise the Committee on Professional Education has operated services financed by grants which have supplemented the activities of this Standing Committee in several respects. Since 1941 the Merit System Service has constructed examinations for the selection of public health personnel. These have been used by 35 states and some smaller areas and by the U. S. Public Health Service for the selection of its own appointees. Funds aggregating more than $150,000 have been made available for this purpose. Another separately financed project of the C. P. E. relates to the accreditation of schools of public health. During the last 3 years the Commonwealth Fund has made available for this purpose a sum of $27,000.

In each of these instances as well as in the case of the Committee on the Hygiene of Housing, these outside funds have been utilized to advance the purposes for which they were given, but none of these funds have been used for the upkeep of the services underlying the special objective. Without a considerable staff and organization financed by the Association itself, these notable projects could not have been operated. With such a basic organization and staff, these and others can be operated for the benefit of the public and for the advancement of the professions making up today's public health.

To put it in another way, it should be noted that membership dues of the Association even at the increased rate will account for only 20 per cent of the Association's income in 1948. For every dollar paid in membership dues $6.50 must come from other sources to carry on the work of the Sections, of the Committee on Administrative Practice, the Committee on Professional Education, the Merit System Service, the Vocational Counseling and Placement Service, the Information Service, the Subcommittee on the Hygiene of Housing, the Subcommittee on Medical Care, the Engineering Section Project, and numerous other committee and Association activities.

A SOUND BUDGET PERMITS EXPANSION

It is the considered opinion of the Executive Board that the Association now stands in a much sounder position with the increased membership income and that this pattern of encouraging out-

side projects can be further extended. In addition the membership and Fellowship have received dividends on their dues during 1948 which have been appreciated. Among these are the Supplement to the January issue of the *Journal* containing the addresses from the extraordinary Special Sessions held at the Atlantic City meeting. Another dividend is the *Year Book* which carried a wealth of Association information and which was distributed free with the May *Journal*. Still another benefit lies in the enlarged *Journal* which in the first 8 months of 1948 contained 1,200 text pages as compared with 1,088 text pages in the corresponding period of 1947.

The Executive Board believes that a prior claim on any remaining funds from this increase of dues should be an extension of the professional staff in the central office. It was 14 years ago that the Board as a matter of faith set itself to support a full-time, professionally trained physician as Executive Secretary. Other staff members have been added from time to time so that at present the professional members of the staff on full time include 5 physicians, 2 engineers, 2 housing experts, statistically trained persons, and an excellent supporting staff. Several part-time individuals serve the Association and the *Journal* in various capacities. The Board is now of the opinion that the time has come to add another medically trained public health administrator to the central staff and it has sought for some months to find the right associate for the Executive Secretary. Such a person will make it possible for the public relations activities of the Association to be developed more adequately. The Board appreciates the excellent progress that has been achieved to date even without a staff fully adequate in numbers. It will readily be seen that there is no difficulty in alloting these new funds for useful purposes.

RELATIONS WITH THE NATIONAL HEALTH COUNCIL

The Governing Council will recall that the Association has been an active member of the National Health Council since the creation of that agency in 1921. This has provided opportunity for the Association to be well housed in convenient relationship to many other national (or international) agencies and has made possible the development of the National Health Library and similar services which would have been beyond the reach of single agencies.

The Association took a leading part in stimulating a four year study of national health agencies which was concluded in 1945 under a grant from the Rockefeller Foundation. Since that time plans for expanding the National Health Council have been laid with the aim that it might become a useful agency for joint planning among national health interests. This plan has been effectuated in 1948 with the appointment of a full-time and well qualified executive director for the Council and through the support of national health agencies and the Rockefeller Foundation. During the last 2 years the Executive Secretary of the Association has served in a voluntary capacity as Secretary of the National Health Council and a considerable load of organization has fallen on him during the developmental period. Several other members of the Governing Council and of the Executive Board have served in close coöperation during these years. We believe that the future of the National Health Council has great promise and that some of the goals of the Association can best be secured through these channels. A first rate example of this fact lies in the help which the National Health Council has already provided in the planning for local health units to cover the nation. Other A.P.H.A. goals such as the cultivation of strong citizen support for public health can be advanced likewise

through the National Health Council.

REVISIONS PROPOSED FOR CONSTITUTION AND BY-LAWS

The Governing Council has on several recent occasions expressed appreciation for the service rendered by the Committee on Constitution and By-laws. Periodic revisions of these documents appear to have kept them abreast of the Association's growth. It is the opinion of the Executive Board that the report which will be presented this year by this Committee is again important and worthy of close study. Members of the Council have already been advised of the proposed revision of the Constitution for the purpose of broadening the participation of members in the voting. The Board believes that this is a wise step and that the impression now abroad among members that they should have greater voting power is well founded. There is no proposal to change the provision that the officers of the Association, members of the Governing Council and Committee Chairmen must be Fellows. It is proposed, however, to allow both Fellows and members to vote for Elective Councillors and by mail, so that attendance at the Annual Meeting will not be required for exercise of the franchise. The Board urges the members of the Governing Council to use their influence in supporting this proposal which will be voted on by the Fellows present at the Boston meeting in November. Suitable new By-Laws will be presented to the Council in Boston to implement the Constitutional changes if they are approved.

NEW ASSOCIATION ACTIVITIES

At the 75th Annual Meeting consideration was given to the appointment of a special Association Committee on Child Health with representation from the Maternal and Child Health, School Health, Health Officers, Public Health Nursing, and Public Health Education Sections. The Executive Board has established this Committee under the Chairmanship of Dr. Leona Baumgartner and a thorough effort has been made to finance activities that relate to the health and medical care of children and to maternity care. It is also expected that this Committee will act for the A.P.H.A. in its relations with national organizations and agencies, professional and non-professional, which are concerned with the advancement of child health. Activities along these lines are well underway, especially with reference to the American Academy of Pediatrics and its Committee on Improvement of Child Health. It is expected that the program of this Committee on Child Health will include the development of recommended standards, procedures and policies, studies of content of program, standards of performance, recommendations regarding undergraduate and graduate education of professional and technical workers in this field and the research or investigations required.

The Committee on Research and Standards has reactivated its Subcommittee on Communicable Disease Control looking toward a new edition of the *Control of Communicable Diseases* in 1950. For more than 30 years the Association has prepared and published this comprehensive report that has world-wide acceptance. The 1945 edition was prepared with the coöperation of the British Ministry of Health as well as with American official agencies. It is anticipated that the 1950 edition will include participation of the appropriate North American agencies, including Canada, and that in addition the British and Scottish Ministries of Health will be represented. In all probability, coöperation will be arranged with the World Health Organization in order that to an increasing extent this report may become an international document. In the meantime, the Association is proud to have had sponsored this ac-

tivity over more than 3 decades, all of which has been under the Chairmanship of Dr. Haven Emerson.

STANDING COMMITTEE REPORTS

Again this year we shall hear reports from Dr. William P. Shepard, Chairman of the Committee on Professional Education; Dr. Wilton L. Halverson, Chairman of the Committee on Administrative Practice; and Dr. Thomas Francis, Jr., Chairman of the Committee on Research and Standards. Inasmuch as these reports will be presented at the Boston meeting and published in the *Year Book*, I need not systematically review their content, but in the case of each of these Standing Committees, good progress has been achieved during the year. The Governing Council will wish me, on behalf of the Association at large, to express cordial appreciation of the faithful service of these Committee Chairmen and of the members of these Committees around whom the professional work of the Association is organized.

Another important Standing Committee which functions most actively at the time of the Annual Meeting is the Committee on Eligibility under the Chairmanship of Dr. Vlado A. Getting, whose Committee has reviewed at the request of the Executive Board the practice of other professional societies in the remission of dues to members of long standing. A proposal will be brought before the Governing Council at the Boston meeting having the approval of the Executive Board and the Committee on Constitution and By-Laws which seeks to set up a modest but effective way of relieving our colleagues of membership dues at the time of retirement after membership of at least 30 years' duration.

MEMBERSHIP

On September 1, 1948, the total membership was 11,531 as compared with the figure in the preceding year at the same time of 11,382. Since the Association last met in Boston in 1923 there has been a net increase of 8,588 in the membership. Ten years ago the membership was less than half the present figure.

Of our more than 11,000 members, *1,874* are Fellows. Two hundred sixty-one applications for Fellowship will be considered by the Committee on Eligibility at the Boston meeting.

The circulation of the *American Journal of Public Health* has continued high during the year and now reaches *13,945* members and subscribers each month. The adjustment of advertising rates made in 1947 seems to have been equitable and wise.

SOME SPECIAL DIFFICULTIES

The Governing Council should know that it has become increasingly difficult to finance two of the activities of the Association which have already made lasting contributions. I refer to the program of the Subcommittee on the Hygiene of Housing first established in 1937 and conducted since then under the leadership of Professor Winslow and with an effective staff. The members of the Council will recall the publication *Basic Principles of Healthful Housing* which has had a decade of usefulness, and more recently the *Appraisal Method for Measuring the Quality of Housing*, now available in four volumes, providing the first objective means of measuring the sanitary quality of housing available to health departments, city planners, and housing authorities. This activity grew out of the work of the Health Committee of the League of Nations years ago and compares favorably with the other national committees on housing set up at that time of which this is believed to have been the only one under nonofficial auspices. Well over $100,000 has been expended in the promotion of this task and Professor

Winslow and the members of the Committee are to be highly commended. The value of these services is not to be measured in dollars but it is to be hoped that the dollars necessary to carry it on can be found from among those persons and agencies with foresight who see the significant value in this work.

In this connection it is a pleasure to record the sustained support which has been received from the Milbank Memorial Fund across the years in this project. Other agencies contributing have included the National Tuberculosis Association, the Woman's Foundation, the Metropolitan Life Insurance Company, and other groups whose support is greatly appreciated.

The other present activity of the Association whose support is threatened is the Engineering Section Project described a year ago which looked forward to research and demonstration in the field of administrative practice as applied to environmental sanitation, including such basic factors as job evaluation and program evaluation. The whole field of training and education for personnel to be employed in this specialty has been given systematic review. The first two years of the project have been concluded under the joint support of the National Foundation for Infantile Paralysis and a group of firms related to community sanitation. Their combined support has made possible the employment of an engineering field associate whose work is suitably coördinated with the Engineering Section, the Committee on Administrative Practice, and the Committee on Professional Education. Again it is hoped that the merit of this project will be apparent to those who can see its inherent values.

ACKNOWLEDGMENTS

The Executive Board is happy to acknowledge the indebtedness of the Association and of the public health professions to the officers, the Governing Council members, the Sections, and the numerous Association and Section Committees which have functioned with enthusiasm and effectiveness during the past year.

Again we extend our appreciation and gratitude for the financial support which comes from many sources. We recognize that the work of the Committee on Administrative Practice again has been dependent on the generous and continuing support of the Commonwealth Fund given for the program of the Subcommittee on State and Local Health Administration. A three year program for the Accreditation of Schools of Public Health as originally set up has now been completed as a joint project between the Association and the Commonwealth Fund, the latter supplying the operating support.

Again the work of the Subcommittee on Local Health Units which has been linked in 1948 with the new program of the National Health Council has been made possible by the W. K. Kellogg Foundation. The activities of the Subcommittee on Medical Care have again been supported by a generous grant from the Rockefeller Foundation. The American Drug Manufacturers Association has continued its support of the studies on pertussis antigen made under the auspices of the Subcommittee on Evaluation of Administrative Practice.

The Merit System Service and Vocational Counseling and Placement Service through part of the year have been maintained in partnership with the U. S. Public Health Service, the Children's Bureau, and the National Foundation for Infantile Paralysis.

The Albert and Mary Lasker Foundation provides the Lasker Awards and funds for their administration.

Special mention is due to the faithful support received from our Sustaining Members which in the aggregate amounted to $8,000 in the general budget. Without this unrestricted

money some of the most fruitful services of Association committees would have been impossible as, for example, the publication in 1948 of the 9th edition of *Standard Methods for the Examination of Dairy Products*.

Of course there should be mentioned the enduring loyalty of thousands of those from whom this professional society calls out the best in voluntary service. It is a priceless ingredient to find busy doctors, engineers, and nurses, to mention only three groups, eager and ready to assume new tasks for the common good. The Association needs their help.

Again it is a pleasure to acknowledge the loyalty and intelligence of the permanent staff who make these accomplishments possible.

Once again, the Board has satisfaction in reporting another useful year to the Governing Council.

ABEL WOLMAN, DR.ENG., *Chairman*

Administrative Practice*

SIGNIFICANT public health developments in the Northeastern area of the United States are of particular interest to the committee. A more liberal administrative attitude toward the consolidation of units of government for effective local health services is noted. A state study became a public record in the Commonwealth of Massachusetts, the evaluation process has been adopted as a basis for program planning and linked with the grant-in-aid administration in New York State, and a year-long study in Pennsylvania is being completed.

In many other states the extent of citizen interest in both expanding and improving community health services would indicate a more liberal administrative attitude elsewhere. As an illustration of the kind of ferment that is going on, the committee has received requests for *Health Practice Indices* from the health chairmen of 53 business and professional women's clubs in 26 states, following its mention as a useful tool in the club women's national magazine *Independent Woman*. These requests were fully answered and referred to the state health department, as well. This is an interesting illustration of the use of information service and the *Indices* as an introduction to education about the broader aspects of community health development.

Local Health Units, Haven Emerson, M.D., Chairman

During the current year the soil prepared through the Princeton Conference for local health units has been continuously cultivated by the National Advisory Committee on Local Health Units of the National Health Council. The Council is meshing its program for encouraging the development of local health councils with that of extending health services through local initiative and support. The subcommittee is an integral part of this program in several ways: its chairman serves as the Association representative on this committee; a grant to the Association from the W. K. Kellogg Foundation has enabled it to share in large measure in the financial support of the program; the committee's research assistant serves as the secretary of the National Advisory Committee.

Important events of the year have been the two regional conferences, each covering five states, held in Indiana in April and in Salt Lake City in October. With teams of professional and lay persons interested in community health service, selected by the state health officers, these have served to clarify both the general problems and the specific ones of the separate states, and have given tremendous support to the local health unit program. It is perhaps worth noting that a general citizen understanding of the significance of local health services has no little influence on recruiting young persons to enter the public health field.

The extent to which many of the Princeton agencies have identified themselves with this program has more than justified the Princeton Conference. The National Grange, American Social Hygiene Association, National Society for Prevention of Blindness, National Organization for Public Health Nursing, National Society for Crippled Children and Adults, and the National Tuberculosis Association have each passed reso-

* Report of the Chairman of the Committee to the Governing Council, November 8, 1948.

lutions carrying out the intent of the Princeton resolutions. The National Congress of Parents and Teachers sponsored the National Health Services Act of 1948, and will work for it in the 81st Congress. Both the Lions International and the National Tuberculosis Association devoted a half day of their recent annual meetings to local health units.

Medical Care, Joseph W. Mountin, M.D., Chairman

The statement on "Coördination of Hospitals and Health Departments," prepared by a joint committee with the American Hospital Association, was approved by both associations and published in the May, 1948, issue of the *American Journal of Public Health*. The American Hospital Association has distributed reprints of this official statement of policy to all of its member institutions.

The Joint Committee on Chronic Disease of the American Hospital Association, American Medical Association, American Public Health Association, and American Public Welfare Association is now discussing plans for the establishment of a broadly representative national commission to make a comprehensive study of chronic illness.

The Maryland Medical Care Program, a study by the staff of the Subcommittee on Medical Care, was published in March, 1948, and distributed to more than 2,500 individuals, including state and local health department personnel, officials of state medical societies, and members of the public welfare profession.

The staff is currently engaged in a field study of general medical care programs administered by local health departments, with a view to publishing a compendium describing the main features of these programs. Also in progress is a field investigation of coördinated activities of local health departments and hospitals which are jointly housed.

A report on *Regionalization in New England*, has been widely circulated. This report gives a detailed account of the activities of the Bingham Associates Fund in promoting closer coördination of medical services on a regional basis.

Study groups are in process of formulating specific recommendations on: (1) The role of voluntary plans in a national medical care program; (2) Intergovernmental relationships in a national medical care program, in collaboration with the Subcommittee on State and Local Health Administration of the C.A.P.; (3) Methods of improving the quality of medical care; (4) The regionalization of hospital and other medical services; (5) The use of auxiliary personnel in dental care programs; and (6) The development of programs for the control of specific chronic diseases.

The subcommittee has continued to prepare medical care bibliographies for the use of health officers and other public health personnel. Additions to this series have included bibliographies on regionalization of medical services and on group medical practice.

The subcommittee has arranged for two sessions at the 76th Annual Meeting of the Association on "Improving the Quality of Medical Care" and "Medical Care Programs: Problems and Methods." It has also collaborated in the development of joint sessions with the Public Health Nursing, Industrial Hygiene, Dental Health, and Engineering Sections.

Evaluation of Administrative Practices, Haven Emerson, M.D., Chairman

The pertussis studies have been carried forward with the continued financial support of manufacturers of biologic products. The work has included experiments in which various cultures of *H. pertussis* and a few para-pertussis and bronchiseptica strains are compared with respect to their virulence and immunizing properties in mice. In addi-

tion, during the year more than 30 protection tests were carried out with sera and the necessary work done related to testing and maintaining a large stock of cultures.

The Study Group on Tuberculosis Control Procedures is collaborating with other authorities regarding a revision of the *Manual on Tuberculosis Case Finding*, previously published by the A.P.H.A. and the National Tuberculosis Association. The Study Group is also concerned with the place of BCG vaccination in a tuberculosis control program. This subject has been under careful study by the Division of Tuberculosis of the U.S.P.H.S. and a representative advisory group who have indicated that the use of BCG should be subjected to further experimental studies. The Study Group will give this matter further consideration as to recommendations that may be available to health officers who are interested.

The report of a five years' study on the use of multiple antigens is expected to be ready for publication before the end of the year.

Unfortunately, a revised Iodized Salt Bill, prepared by the Study Group on Endemic Goiter and sponsored by Congresswoman Frances P. Bolton, was rejected in Congressional Committee. The attention of the Study Group is now focused on state regulation of this measure.

Study and analysis of carrier control procedures in the various states has recently been completed by the Study Committee on Typhoid Fever. Recommended methods for discovery, examination, and control, as well as criteria for the cure of typhoid carriers will be included in the committee's report.

The Study Committee on Hemolytic Streptococcal Infections (which is the new name of the original Study Group on Scarlet Fever) held a two day conference on November 6 and 7 with a number of invited consultants in this field. The group reviewed the sections on rheumatic fever and acute hemolytic streptococcal infections in the Association's report *The Control of Communicable Diseases*, and submitted proposed changes to the Subcommittee on Communicable Disease Control of the Committee on Research and Standards, in charge of the revision of this report.

State and Local Health Administration, Ira V. Hiscock, Chairman

A re-study was made in California early this year at the request of the state. It is significant to observe that this rapidly growing, vigorous health department has made extensive use of the previous study and has adopted a large majority of the recommendations. It is interesting, too, to recognize that the study techniques can be reapplied with profit on a somewhat different level, that is, with regard to the finer details of administrative practice.

The major states of Massachusetts and Pennsylvania have been studied since last October. These studies are of unusual importance not only because of the size and complexity of the administrative problems but because of their general application to the heavily populated northeastern section of the United States. A practical method for the establishment of local health units in Massachusetts which would have the support of legislators and local health officers is being developed through a notable state committee.

The study in Pennsylvania has furnished unusual opportunity to explore new patterns of state studies. The Commonwealth of Pennsylvania provided $35,000 from federal funds toward the support of the study. This made it possible to secure qualified consultants in such fields as fiscal administration, personnel management, tuberculosis sanatorium administration, rheumatic fever control, and also to secure the benefits of group thinking of other agencies and

personnel, in local and state government, rural sociology, volunteer nursing, legislation, etc. The technique of institute group discussion was used, giving the participants opportunity to assist in the development of recommendations. At least one thousand copies of the report will be printed.

A short follow-up visit with a rapid review of a previous state study was made in Oklahoma. It was interesting to note that the majority of the recommendations of the 1938 study had been carried out. Many of the policies and the methods of operation clearly follow the survey. Visits were made by the Field Director to the states of Ohio and West Virginia for the specific purpose of discussing survey technique, of meeting with substantial groups of citizens to discuss basic needs of the health department, and to consult with the State Health Officer regarding changing policy of local health administration.

A significant local study was made in Kansas City, Mo., through coöperation of the field staff. This suvey, officially in charge of Community Surveys, Inc., was an attempt to study community organization as a whole in the fields of dependency, child care, health, recreation, culture, and adult education, particularly with regard to trust fund administration. The committee appreciates the opportunity to collaborate with Community Surveys, Inc., and believes that studies of this type are helpful in that they include all the related social sciences.

The Evaluation Project has made genuine progress. The efforts of this Project (now in its 28th year) to establish practical tools, to develop a better understanding of methods, and more firmly establish evaluation as an integral part of public health, are increasingly recognized in meetings with related groups, in published articles, and statements by competent public health authorities. Specific instances of the use of the *Schedule* in schools of public health and in field consultant services are a notable gain.

There appears to be a growing interest on the part of state health departments to accept responsibility for the use of the *Schedule* as a part of their normal evaluation process. Michigan graded schedules completed by 32 of its local units. As a by-product of the 61 schedules submitted from New York State, special statistical studies will be conducted which may present new factual evidence concerning the contrast of areas with and without organized public health services.

The *Evaluation Schedule* was expanded by the completion and release of the *Sanitation Evaluation Schedule* for use in the study and appraisal of community sanitation programs. Copies of the *Schedule* and a *Guide* to its use have been sent to all state health departments, and many city departments, to interested representatives of other fields of engineering and to schools of public health. In the opinion of the staff, the *Sanitation Schedule* represents an advance in the evaluation technique, particularly in the fact that the three basic areas—facilities, effort, and status—are more clearly defined than has been possible heretofore. Unfortunately funds are in sight only until the end of 1948 to provide field service by a qualified engineer in the development of this *Schedule*.

Additional expansion of the overall schedule by the preparation of a special schedule on Dental Health is now under way. Authorities in the field of mental health are interested in the development of a schedule on Mental Health. While these specialized schedules are to be used for experimental purposes, it is hoped that after sufficient field trial, certain items will be incorporated in the next revision of the overall schedule.

Accident Prevention, Donald B. Armstrong, M.D., Chairman

Representatives of the Subcommittee on Accident Prevention have continued active coöperation with the National Safety Council and other agencies in this field. They have been particularly active in the reorganization of the National Home Safety Conference.

In the programs on home safety at the annual meetings of the National Safety Council and the American Public Health Association, attention is given to the newer approaches to accident control, including their public health and epidemiological aspects, together with the emotional elements in accident proneness, and the motivative psychological factors in education for accident prevention.

The section on Accident Prevention in the revised *Evaluation Schedule* was featured in the Health Education Exhibit of the National Publicity Council at the Association Annual Meeting.

Public Health Nursing, Marie L. Johnson, R.N.

A statement on "Public Health and Bedside Home Nursing Services," approved by the Committee on Administrative Practice, was published in the January, 1948, *American Journal of Public Health*. This is an amplification of the statement prepared by the Committee on Nursing Administration in coöperation with a group of national and federal agencies interested in public health nursing. An outgrowth of the work of this group has been the organization of a committee of public health consultants representative of national and federal agencies to discuss and clarify common problems and to formulate and promote basic principles of organization and service.

It seems increasingly clear from the deliberations of various committees that there must be found suitable methods of integrating all public health nursing services in a community whether they be financed by funds from contributions or from taxes, as well as to find suitable administrative methods for pooling such funds.

A statement, entitled "Urgent Message to Employers of Public Health Nurses," which includes a suggested salary scale for field nurses, has been distributed to health officers, governors, mayors, chest executives, and others, by the National Organization for Public Health Nursing.

A study of costs in public health nursing has been under way since December, 1946. On the basis of material collected, a cost manual has been prepared and is now being tested in different types of agencies.

Staff Changes

Dr. Roscoe P. Kandle accepted appointment as Field Director on February 1, 1948, when the Association lost Dr. Carl E. Buck to the University of Michigan.

Summary

In summary, the committee on Administrative Practice can report two state studies, one resurvey, increasing active use of the *Evaluation Schedule* in ever-broadening and rather remarkable different ways, research to determine its validity, a new *Schedule* on Environmental Sanitation which it appears will get into use quickly without the long promotional period that was necessary with the parent *Schedule*, the Dental Schedule on the way, the nation-wide surge of action of voluntary agencies in the development of local health services now linked with the youthful and exuberant efforts of the National Health Council, real progress in administrative control problems of Hemolytic Streptococcal Infections, additional significant knowledge in pertussis immunizing agents. These are but a few of the efforts in many fields in which this committee is active and plans to carry

on its program for the coming year.

The committee would be remiss not to acknowledge the financial and moral support given to its work by The Commonwealth Fund, The Rockefeller Foundation, The W. K. Kellogg Foundation, the U. S. Public Health Service, and drug manufacturers.

WILTON L. HALVERSON, M.D.,
Chairman

Eligibility*

THE Committee on Eligibility recommends for election to Fellowship in the American Public Health Association the largest number of members to request this status since Fellowship was established in 1922. A total of 259 Fellowship applications were received this year, of which 252 passed the twelve Section Councils and the Executive Board (acting on unaffiliated applications), and 250 have been approved by the committee. The names of the applicants recommended for Fellowship by the Committee on Eligibility appear on the lists that have been distributed to members of the Governing Council.

This large number of applications is due in part to a statement appearing in several 1948 issues of the *American Journal of Public Health* setting forth in detail the requirements and privileges of Fellowship. Many members were under the impression that they must wait for an invitation before applying, and, although the published statement resulted in the submission of a few applications from persons who are not professionally qualified, on the whole the current list of applicants contains excellent candidates in the various branches of the profession. It is a wholesome indication of a desire to be of recognized professional standing.

It should be remembered that the By-laws state that "persons who have been members for at least two years and are of established professional standing shall be eligible for election as Fellows." Therefore any member who has been affiliated for at least two years who wishes to apply for Fellowship must be permitted to do so. The Section Councils and the Committee on Eligibility are the groups within the Association that must carefully examine the credentials of persons requesting Fellowship, and theirs is the very important responsibility of denying admittance to unqualified persons before the names are submitted to the Governing Council for final action. This year the Section Councils were warned to be particularly careful in screening the applicants in their Sections. The Eligibility Committee, in considering the applications that passed the Section Councils, measured each one against the six paragraphs in the By-laws defining persons of established professional standing, spending most of the day on this arduous task.

This large number of new Fellows will increase the total Fellowship to slightly over 2,100, or just under 19 per cent of the total membership. It is rather striking how closely the percentage of Fellows has remained at this level as the Association has grown.

The number of applicants for membership in the year ending August 30, 1948, that the committee approved for membership in the Association was 1,227. This is a few hundred less than the number requesting affiliation during the 1946–1947 period. It reflects to some extent the rise in membership dues and the low compensation levels of public health workers.

The Chairman of the Executive Board has already reported to the Governing Council the membership situation in this first year of increased dues, but since the Committee on Eligibility has been interested in the reception that the dues increase received, being one of the groups which recommended that an increase be made, I wish to express for the members of my committee our pleasure in learning that the Associa-

* Report of the Chairman to the Governing Council, November 8, 1948.

tion's membership income as of August 31, 1948, is $15,000 higher than on the same date in 1947, as a result of the extra dues received from members and Fellows this year. This added income has enabled the Association to enlarge the *Journal,* to publish a *Year Book* once more, and to bring out other occasional dividends in the form of supplements to the *Journal.*

Steps are being taken to revise the Constitution and By-laws at this Annual Meeting to permit members to vote for the elective members of the Governing Council, and to have these elections take place by mail, thus offering to every member and Fellow of the Association the opportunity to vote for these important offices. It is my own opinion, in which I believe a majority of Fellows agree, that a broader base for voting franchise is indicated. The A.P.H.A. has an enviable record of democratic participation which should be maintained.

Another matter that is moving forward is the recommendation which the Committee on Eligibility made at its 1946 and 1947 meetings, namely that special consideration be given to liberalizing the policy in effect for cancelling the dues of members of long standing. The Committee on Constitution and By-laws has submitted for approval at this meeting an amendment that would provide for dues exemption of persons who have retired from active duty and who have been affiliated with the Association for thirty years. In addition to this provision, the previous arrangement whereby persons with forty years of membership automatically stop paying dues and receive a special certificate will be continued.

No statement on membership in the Association is complete without mentioning the total number of members, which was 11,531 on September 1 compared with 11,382 on September 1 of last year. A notable increase in new members has taken place in prospect of a new Section on Medical Care. The best membership promotion comes from the word of mouth invitations that members and Fellows express from day to day. The A.P.H.A. is fortunate in having many loyal supporters whose help is much appreciated.

The record of new Fellowship applications is not the only record to be made this year. A total of 164 members and Fellows have applied for Life Membership in the Association, and their names have also been approved by the committee and appear on the list furnished to all members of the Governing Council. This large number of applicants is a result of the offer that was broadcast to all members and Fellows last year enabling anyone interested to apply for Life Membership at the rate of $100 before the new rate of $200 went into effect on January 1. Even at the present rate of $200, Life Membership is a bargain, especially for Fellows, who receive a 6 per cent yield on the investment for the first 17 years, after which it costs them nothing for life.

Applications for Affiliated Society status have been received from the Minnesota Public Health Conference and the Washington State Public Health Association, and the committee recommends that they be accepted. If these organizations are added to the roster of state health associations affiliated with the Association, the total of such organizations will be 29. Correspondence is constantly under way with other state associations interested in such affiliation. In order to be eligible for election, at least half of the active members of the society must be members or Fellows of the A.P.H.A. and the society must show evidence of being a going concern. It has been apparent over the years that the membership provision has prevented certain states from qualifying, but we suggest no change.

Both the Southern Branch and the Western Branch of the A.P.H.A. have adopted revised constitutions this year and the Committee on Eligibility has approved both constitutions as conforming to the standards that have been set up.

Careful attention was given by the committee this morning to the possibility of adding to the Honorary Fellowship list, and the names of Brock Chisholm, M.D., Karl Evang, M.D., and V. Mary Crosse, O.B.E., MD., are hereby presented for the consideration of the Governing Council.

VLADO A. GETTING, M.D., State Department of Health, Boston, Mass., *Chairman*

Professional Education*

IN reviewing the activities and interests of the Committee on Professional Education during the past year, two main currents are apparent to the Chairman, currents emerging from the many smaller streams of detail which represent our daily tasks. The first current is that of increasing interchange of ideas between the C. P. E. on the one hand, the membership of the A.P.H.A. and public health workers at large on the other hand. The second current could be termed briefly: "The C. P. E. represents interests of a growing public health family." The last year has shown us ample evidence that there are newer members in our family who require the same assistance, encouragement and recognition the old established ones have received in the past.

In the light of these two trends, I would like to examine with you the committee's record since last October. One new member was appointed by the Executive Board for a three year term. He is Roy J. Morton, formerly of Vanderbilt University, now at the Oak Ridge National Laboratory. Mr. Morton replaces Ralph Tarbett who had served the C. P. E. faithfully since its beginnings and who died on January 25, 1948. The Executive Board reappointed three members for three year terms: Drs. W. P. Shepard, Gaylord W. Anderson and W. W. Bauer. Since the 1947 Annual Meeting, the committee met once on March 22, 1948, in New York.

In his last Report to the Governing Council, the Chairman of the committee discussed briefly, the divergent views on the training of the various administrators of specialized health activities. Some advocate that maternal and child hygiene, mental hygiene, and cancer control administrators fulfil the various clinical specialty board requirements, while others believe a *reasonable* amount of clinical experience is important but that public health training should be the principal requirement. The Committee on Professional Education favors the second solution and has, during the past year, discharged the subcommittees dealing with the educational qualifications of Maternal and Child Hygiene, Mental Hygiene, and Cancer Control Administrators. In place of their individual reports, a new combined Report on Educational Qualifications of Medical Administrators of Specialized Health Activities is in preparation which will reflect the committee's thinking.

Other new reports in preparation are: Educational Qualifications of Personnel in Vital Statistics and Vital Records; Educational Qualifications of Industrial Hygienists; Educational Qualifications of Dental Hygienists; and Educational Qualifications of Public Health Veterinarians (for which last report, a new subcommittee was appointed during the year). The reports to be prepared for dental hygienists and public health veterinarians are evidence of both currents mentioned at the outset: extending the committee's attention to a growing public health family and increasing the lines of contact between the C. P. E. and the newer members of this family which now turns to the C. P. E. for the type of guidance it has given to old established groups for some time.

The establishment of the Subcommittee on Educational Qualifications of Dental Hygienists also represents part of another development. In establish-

* Report of the Chairman of the Committee to the Governing Council, November 8, 1948.

ing desirable educational qualifications for various groups of public health workers, the C. P. E. used to limit itself almost exclusively to professional groups which require postgraduate training in order to be fully qualified for their work. The Report on Educational Qualifications of Sanitarians which was published in Proposed Form in the July, 1948, *Journal* and which is before the Governing Council for approval, as well as the Report on Dental Hygienists in preparation, deal with workers who rarely have a college degree. In this instance, the unwritten practice of the committee was abandoned since these groups had turned for guidance to the C. P. E. which by now occupies an authoritative position in recommending educational qualifications in the public health field.

A second report before the Governing Council is that on Educational Qualifitions of Community Health Educators which was published in proposed form in the June issue of the *American Journal of Public Health*. Although the Report on Educational Qualifications of Health Educators is only five years old, a complete revision was urgently needed because of the tremendous advances and changes in concepts in this new and important field.

The Proposed Report was generally very well received. The eagerness with which it was expected is documented by numerous letters with some suggestions for minor changes and additions. The Referee, supported by the members of his subcommittee, has incorporated some of these changes into the Proposed Report; the amended version which will probably be approved by the C. P. E. is before the Governing Council. This again is evidence of the democratic interchange of ideas between the committee and those in the field. In this connection it may be well to bear in mind that each Proposed Report is the result of the thinking processes of many minds.

During the past year, 6,600 reprints of the various reports of the Committee on Professional Education were distributed—34,600 inclusive of the *Journal* distribution.

The Executive Board, during the year, approved the appointment of Dr. W. P. Shepard (Dr. Atwater, alternate) Dr. Richard F. Boyd and Dr. V. A. Van Volkenburgh as representatives of the American Public Health Association to the Organizing Committee of the Specialty Board in Preventive Medicine and Public Health. Developments in this direction have been rapid and although this is no longer what might be termed "a C. P. E. affair," the Chairman would like to report briefly on the developments regarding the Specialty Board since the C. P. E. had a strong influence on the events. The Organizing Committee with representatives of the A.P.H.A., the A.M.A., the Association of Schools of Public Health, the Southern Medical Association, and the Canadian Medical Association formally organized in May, 1948, and was incorporated in July, 1948. The by-laws have been approved and the next important step for the Incorporated Board is that of application to the Advisory Board for Medical Specialties. Until this step is taken, applications from possible candidates cannot be acted upon. The Interim Board, formed by the Army, Navy, and U. S. Public Health Service, is awaiting the full functioning of the American Board of Preventive Medicine and Public Health, Inc., and is therefore not examining candidates although it has received a good number of applications from officers in the Services. There is a possibility that our Merit System Service will be called upon to construct written examinations for the new Board.

The next important function of the Committee on Professional Education in connection with the Specialty Board is the establishment of Criteria for the approval or accreditation of residency

experience which would parallel the Criteria for the approval of interneships and residencies established by the A.M.A. The Subcommittee on Field Training, which prepared the original report will submit its recommendations to the Committee on Professional Education.

The Executive Board approved amendments of the accreditation Criteria and granted accreditation to the following universities for the academic year 1948–1949. For the M.P.H. degree: California, Columbia, Harvard, Johns Hopkins, Michigan, Minnesota, North Carolina, Toronto, Tulane, and Yale. For the Dr. P.H. degree: California, Columbia, Harvard, Johns Hopkins, Michigan, North Carolina, Yale. This is the second year Tulane is accredited. Vanderbilt University has discontinued its School of Public Health. This year accreditation was granted to most institutions on the basis of written questionnaires since the committee feels that it is unnecessary to visit each school each year. A summary of the data prepared by Professor Winslow, the Consultant on Accreditation, reveals that the size of the effective budgets and the size of the faculties have generally shown an increase over the previous year. In accordance with this development, the committee may recommend that the Criteria dealing with these requirements be made more stringent. This would provide a safeguard against applications for accreditation by inferior or borderline schools. Some hitherto unaccredited schools have recently expressed interest in accreditation.

The feasibility and desirability of accrediting Master's degrees in health education other than the M.P.H. in schools of public health or outside schools of public health poses an important and difficult problem which is at present being investigated by the committee. Accreditation of graduate engineering curricula is also within the committee's sphere of interest and the committee stands ready to coöperate with the Engineers' Council for Professional Development which has recently started to manifest interest in the accreditation of Graduate Engineering Degrees.

Another phase of the accreditation program is the accreditation of field training areas. The Governing Council on October 8, 1947, approved the Report on Field Training of Public Health Personnel proposed by the Committee on Professional Education. This report contains the following paragraph :" The committee has attempted . . . to establish certain standards which may serve as a guide in the development of field training areas. The committee recognized that these standards are, of necessity, provisional and in many instances reflect a lower quality of service than might be desired. On the other hand, it has been forced reluctantly to accept the fact that many field training areas in all parts of the United States do not attain even these minimum standards." Recognizing the fact that very few field training areas in the United States do come up to the standards of that report, the committee has authorized the drafting of a more realistic set of standards by its Subcommittee on Field Training. The subcommittee met this morning to draft such standards as well as standards for acceptable residency experience. The original three year grant for the accreditation program made available by the Commonwealth Fund is now almost exhausted and other financial resources will have to be found to secure the continuation of this important project. It is felt that this project, which was undertaken at the request of the Association of Schools of Public Health, has not only fulfilled the function of safeguarding a proper level of education for public health workers, but has materially assisted the existing schools in rounding out and improving their programs of instruction.

Another project which is of considerable interest to the program of the schools and of equal interest to the performance of public health administrators is a possible "Job Analysis of Health Officers' Positions" which has been of interest to the C. P. E. for some time. Many public health leaders feel that there is too much discrepancy between what the schools of public health teach and what the health officer actually does. How large a percentage of the curriculum of the schools is concerned with problems of business administration, public relations, community organization and personnel problems? Is it not much lower than the percentage of the health officer's working hours spent on these tasks? This and similar questions might be more reliably answered if the results of a job anaylsis were available. This project which lately was dormant, may be closer to realization because of the active interest of one of our Fellows who was stimulated by the *Journal* editorial on the "Science and Art of Health Administrators" in which this problem was mentioned. Our reader made some practical suggestions for a possible solution—another example that the committee is not and should not be a self-sufficient body.

Much interchange of ideas and actual working relationships is in evidence between the Subcommittee on Salary Study, the U. S. Public Health Service, the State and Territorial Health Officers Association, and other professional groups. At the request of the Committee on Professional Education and the Association of State and Territorial Health Officers, the United States Public Health Service, during the past year, completed a study of salaries of state public health workers and a study of salaries of public health workers in local health units, covering population groups between 50,000 and 250,000. The Subcommittee on Salary Study and the Central Office were helpful in planning and sponsoring the studies, mailing the questionnaires and distributing the completed product. The Clearing House on Public Health Salary Information enjoys the active interest and participation of our readers. The subcommittee is now in the process of working on salary recommendations and on the application for a possible research grant for the purpose of analysis of important basic data inherent in job specifications.

The Merit System Service is looking back on a most interesting and fruitful year. The principal new developments are: an annual service plan together with other arrangements aimed at making the Merit System Service self-supporting; increased promotion of standard examinations; and an increased scope of activity in the field consultation service.

The Annual Service Plan which was announced on July 1 has now been accepted by nine states. The plan provides for a broad and inclusive examination service made available on an annual fee basis to state and city health departments. The service includes the release to the state or city of any number of copies of the available standard examinations, scoring of the answer booklets, analysis of results, and certain other services of interest to merit systems and personnel administrators. The fee ranges from $750 to $4,000 annually and is based on the amount of total funds budgeted for public health. Standard and tailor-made examinations will continue to be released to states and cities not electing to come under the annual service program as well as other agencies.

The National Foundation for Infantile Paralysis Grant for the Field Consultation Service was continued for another year. The field consultant has rendered increasingly useful and appreciated services not only in interpreting the Merit System Service to health administrators in the field, but also in

rendering much needed and expert consultation to merit systems and the personnel management of health departments on problems of classification systems, salary scales, personnel recruitment and selection, and the application of merit system rules. As of October 15, 1948, 35 states, 8 cities or counties, 22 schools of public health nursing, 20 visiting nurse associations and 2 schools of sanitary engineering have used the examination services. During the past year, examinations for various professional groups were prepared for the U. S. Public Health Service and these were taken by over 500 candidates in the United States and Territories as well as those serving overseas. An increasing number of professional fields —keeping pace with the growing public health family—are being supplied with examinations.

Two of the newer members of our growing public health family have recently asked to be included among those for whom educational qualifications have been or are being established. These two new groups are the non-medical administrator in health agencies and the medical-social worker in health agencies. In both instances the suggestions came from the general membership outside the committee ranks, another evidence of the general interest which is being manifested for the committee's work.

I have stated that an increasing amount of interchange of ideas is noticeable between the C. P. E. and all public health workers, and I have illustrated with examples that the committee serves a growing number of professional interests. This is in keeping with an increase in the number of agencies and the expansion of programs demanding the services of an increasing number of professional skills. We all know, however, that supply and demand have not reached an equilibrium and the continuing personnel shortage is directly and indirectly of serious concern to us all.

There are various components to be considered in understanding this continuing problem and they can only be mentioned in passing: the increasing number of public health, medical care, and related agencies using trained personnel; continuing unfavorable salaries; limited capacity of the schools; failure on the part of the faculties to stimulate interest in the public health field among medical, engineering, and nursing students; last not least, ignorance and unawareness among legislators and the general public as to the services of public health agencies and the rôles of public health workers.

The Vocational Counseling and Placement Service continues to report a great discrepancy between the number of applicants and the number of openings on its register. Between March and October, 1948, 212 new openings were registered, but only 48 candidates. Since most of the new candidates are placed much more speedily than the openings are filled, the total openings on the register as of October 1 numbered 766 as against 91 available candidates; a proportion of 8:1. In the past year almost 400 office interviews were held. The Service continues to be the only central clearing house for openings and candidates in the public health field. At present there is no such central clearing house available in the welfare field, and the counselors hold frequent counseling interviews and some correspondence with persons in that field also.

There have been frequent expressions of appreciation for the Counseling and direct placement services on the part of the many persons who come and write to the Association for guidance and advice as well as from employers and candidates. Recruitment on a small scale is of course carried on by the Service but in order to make a dent in the personnel shortage a much more comprehensive program will have to be followed.

The following figures may serve to illustrate the discrepancy between the vacancies in the field and the most important source of supply: the schools of public health. According to our annual tabulation on degrees and certificates granted, during the academic year 1947–1948, the number of M.P.H., D.P.H., Dr. P.H., and M.S.P.H. degrees granted in the United States and Canada by the accredited and a few unaccredited schools was 423. At the very same time there were 447 medical, public health engineering, health educator, and statistician vacancies in the state and local health departments of just 13 states, according to *Public Health Reports*.[1] One year's graduating class then would just about fill vacancies in 13 states *if* all the graduating students were free to go anywhere. However most of them are already employed. Also, such an estimate does not take account of ever-increasing job opportunities in new agencies, the replacements for retired and deceased persons, and for those changing over to other fields.

At the present time there are no funds available for a large-scale recruitment program, not even moderate sums for the printing and distributing of already prepared recruitment pamphlets. This situation should be of supreme concern to all public health workers. It might be well to quote in conclusion a few sentences from a statement in *Public Health Reports*[1] accompanying the tabulation on vacancies mentioned previously:

> Vacancies reported in 1947 were greater than in 1945 in 13 of the 19 categories of positions. Official health agencies will have to face in a realistic fashion, the continued scarcity of trained personnel indicated in these reports if the public is to receive the kind of public health service recommended by competent authorities as a necessary minimum for human welfare. Some of the reasons for this shortage —low salaries, lack of prestige, lack of job security are known. Possibly there are other less obvious reasons. It would seem that the time has come for all concerned to study thoughtfully the problem of recruitment and training of public health personnel with a view to taking definite action to correct the situation".

REFERENCE

1. *Pub. Health Rep.* 62:1668–1670, 1947.

WILLIAM P. SHEPARD, M.D.,
600 Stockton Street, San Francisco
Calif., *Chairman*

Research and Standards*

EIGHTEEN years ago, Abel Wolman, Chairman, presented to you the first report of the then recently organized Committee on Research and Standards. In that report, he said:

"A member of an association of national scope may justly expect it to perform for him two major functions. It should provide for him an opportunity to exchange information with fellow workers, and should formulate standards of measurement in those fields where a uniform procedure would facilitate efficient action."

The Committee on Research and Standards is of the opinion that Dr. Wolman's words are still appropriate. It is, however, not a prime responsibility of this committee to provide an opportunity to exchange information with fellow public health workers. The pages of the *American Journal of Public Health* do that. So do the forums of each Sectional session. But even here we do contribute to a valuable exchange of ideas among our 8 subcommittees and the more than 100 members of committees and subcommittees. The strength of the Committee on Research and Standards lies not in having large funds available for research. Rather, strength comes from the pooled knowledge, experience, and interests of its committee members, each of whom has been selected with care.

A principal activity of this committee has been the evaluation, formulation, and preparation of standards of measurement "where a uniform procedure will facilitate efficient action." This does not imply the adoption of standards just for the sake of presenting a rigid formula for action.

LABORATORY METHODS

Laboratory procedures are bound to reflect the preferences of the individual worker; they will be altered according to the equipment and materials available. However, for any laboratory where a reliable, efficient method must be selected promptly, it is desirable to have access to the proven and tried methods of experts. Likewise, when comparisons between results obtained in different laboratories are made, a common operating procedure must be followed. It is important that these accepted procedures should not be stagnating influences of authority but be constantly maintained as progressive stimuli. That is why the Association, for more than half a century, has been active in the compilation of successive volumes of laboratory methods, now well known as "Standard Methods."

The Ninth Edition of *Standard Methods for the Examination of Water and Sewage* was published late in 1946. Sales of the volume have been brisk so that by November 1, 1948, 6,000 copies had been sold. The results of good editing are shown by the only minor errors discovered in almost two years of use. Steps toward the Tenth Edition have already been taken. The Joint Editorial Board, you will recall, is now composed of representatives from the three responsible organizations: The American Water Works Association, the Federation of Sewage Works Associations, and the American Public Health Association. An organizational meeting of the Board has been held and plans have been prepared for publication, probably in 1951. Walter L. Mallmann, Ph.D., is Chairman of the Standard Methods Committee of the Association working toward the Tenth Edition.

* Report of the Chairman of the Committee to the Governing Council, November 8, 1948.

I am also happy to report the publication of the Ninth Edition of *Standard Methods for the Examination of Dairy Products*. This volume went on sale in August, 1948. More than 1,600 copies have been sold already. The Standard Methods Committee under the Chairmanship of A. H. Robertson, Ph.D., which prepared this edition, estimates hopefully that it may not be necessary to publish another revision until about 1955.

You will note the term *Standard* in each of the preceding titles. Such a term is used advisedly. The basic methods comprising the volumes have been time-tested and have reached general acceptance on their merit. The term is also used because in the enforcement of public health laws in the respective fields involved, there must be accepted methods to guide judicial agents and to protect the purveyor. There are two other Association publications that do not warrant the term " Standards " because they apply to fields in which technics are rapidly changing with the advance of knowledge. These methods are not offered as official, completely standardized, rules of procedure. Rather they represent the methods found currently most effective by foremost workers in the subjects.

The first of these is *Diagnostic Procedures and Reagents*. It is now in its Second Edition. A manuscript for the Third Edition is in hand so that a Third Edition should be forthcoming in the near future. This revision, incorporating the numerous changes of the past several years, is being prepared by the Standard Methods Committee on Diagnostic Procedures and Reagents of the Coördinating Committee on Laboratory Methods, Ralph S. Muckenfuss, M.D., *Chairman*.

The second publication represents a venture into a new subject for Association publications. It is *Diagnostic Procedures in Virus and Rickettsial Diseases*, prepared by the Laboratory Section Standard Methods Committee on Diagnostic Procedures in Virus and Rickettsial Diseases, Thomas Francis, Jr., M.D., *Chairman*, and is the first devoted to bringing together accurate details of technics employed in studies of those agents. This volume went on sale in late July and has already reached a wide distribution in the more than 800 copies sold.

In addition, the word, standard, has been dropped from the reports on the Examination of Shellfish.

With the growth of the Association, the diversified interests of its Sections, and the increasing need for a variety of skills with which to approach a broad problem, the possibility exists that numerous studies upon different aspects of the same problem may be in progress without that interchange of information and assistance which could be of inestimable value to the investigating groups. Furthermore, a composite view of the accomplishments would not be readily available to the Association and volumes of standard or recommended procedures, unacceptable to other interested groups, might be offered as Association publications.

Last year your attention was called to a plan designed to afford wider sectional representation on committees preparing laboratory methods while at the same time assuring a more comprehensive review of proposed Association reports and coördination of activities of various sectional committees. The July, 1947, issue of the *American Journal of Public Health* carried the proposed plan. It is my pleasure to report that with the approval of the most vitally concerned Sections, the Coördinating Committee on Laboratory Methods has been established and organized as an integral part of the Committee on Research and Standards. It will be the responsibility of this committee to carry on the preparation of volumes of laboratory methods

already established under the earlier auspices of the Laboratory Section, and to establish subcommittees charged primarily with the duties of review and publication of new laboratory methods when the results of a sectional committee's work indicate the desirability of a published report at a level beyond the ordinary committee report. By this method any Section interested in the proposed volume will be afforded an opportunity for representation on the subcommittee preparing the report. This did not always take place when publications were prepared by a sectional committee. Moreover, by virtue of the closer coöperation between Sections, increased appreciation of mutual interests should be attained and publications will be expedited by furnishing much of the necessary review leading to approval for publication. At the same time it is the purpose of the Coördinating Committee to stimulate sectional committees to exploratory activities, and not to restrict or supersede committees which represent the active interests of the Section. There is firm conviction that this change will contribute valuably to progress.

Under the diplomatic chairmanship of Friend Lee Mickle, D.Sc., seven subcommittees of the Coördinating Committee have already been established and are at work.

One event of the past year is a source of deep regret; that is the curtailment of eleven years of important constructive work done by the Subcommittee on the Hygiene of Housing. Under the imaginative and enthusiastic Chairmanship of C.-E. A. Winslow, Dr. P.H., and the patient and constructive service of its Technical Secretary, Allan A. Twitchell, this committee has placed housing and health squarely before all categories of public health workers, town and city planners, architects and numerous citizens' committees. You are familiar with the earliest publications of the committee. *An Appraisal Method for Measuring the Quality of Housing*, published in two parts, has had wide circulation. Early this year the first of a three-part series on *Standards for Healthful Housing* was published. The title of the report is "Planning the Neighborhood." The second part on dwelling space and occupancy standards is in the final editorial state. In addition to preparation of these reports, the staff of the committee has worked with the U. S. Public Health Service in establishing a training course on appraisal technics at the Communicable Disease Center. Assistance has also been given to the Bureau of the Census in preparation of the 1950 Census of Housing. Although a shortage of funds must necessitate markedly lessened activity by this committee, continued support by the Milbank Memorial Fund should permit a carrying on of work until completion of the Standards for Healthful Housing series sometime in 1949. I am sorry to record this pessimistic report.

The most widely distributed publication of the Committee on Research and Standards is the report on the *Control of Communicable Diseases*. The Sixth Edition has been translated into several languages, its sales are numbered in six figures and the World Health Organization has exhibited a deep interest in its being available as an international contribution. The Subcommittee on Communicable Disease Control, again under the effective Chairmanship of Haven Emerson, M.D., has been preparing a Seventh Edition of the report. An indication of the enthusiasm with which this committee is attacking its task is the two day session held prior to the Annual Meeting for actual revision of a preliminary draft. The Seventh Edition should be ready for publication not later than 1950.

The 1947–1948 *Yearbook* carried in it a copy of a proposed technic for the bacteriological examination of food utensils. This had been prepared by the Subcom-

mittee on Food Utensils Sanitation of which Walter Tiedeman is *Chairman*. The Committee on Research and Standards accepted the report with the recommendation that it be adopted as an Association report. Your reply by means of a mail vote resulted in 90 votes for approval and no dissenting vote. The subcommittee is continuing its study of the sanitation of food utensils.

Your committee has been aware of the growing interest in various aspects of the sanitation of the atmosphere. For several years a Subcommittee for the Evaluation of Methods to Control Airborne Infections was active and rendered valuable reports on the current status in this field. Several committees of the Engineering, Epidemiology, Industrial Hygiene, and Laboratory Sections have also been active in studying other segments of the problem of air purification. In order to provide a coördination of all interests at an Association level our subcommittee was reorganized and renamed the "Subcommittee on Air Sanitation." Alexander D. Langmuir, M.D., the new *Chairman*, will have had his committee in session during this Annual Meeting for the purpose of charting a program for next year. Their purpose is in no way to supplant existing sectional committees; rather, it hopes to bring together their findings through sectional representatives on the new committee and to cover aspects needing study in which sectional committees may not be involved.

As you are probably aware, the Sixth Revision of the *International List of Causes of Death* is an accomplished fact. To this list of causes of death has been added a classification of diseases and injuries. Although the Association did not participate officially in the preparation of these lists, it was represented in that the Chairman of our Subcommittee for the Sixth Revision of the *International List of Causes of Death*, Edward S. Rogers, M.D., was a member of the United States Subcommittee working with the international committee in the preparation of the Sixth Revision. Since United States participation was through official agencies of the government, it would seem that our subcommittee can continue to serve a useful purpose by observing and experimenting with the use of the *Lists*. This should assure a means for carrying to the official agencies the conclusions and recommendations of the professional public health group. Our committee will discuss these functions at its meeting here this week.

During our meeting in March the following motion was adopted:

> "That the Subcommittee on Morbidity Registration and Statistics be requested to conduct appropriate research so as to establish a practical pattern of a county and city mechanism for morbidity reporting and for public health statistics which are based on a current, up-to-date knowledge of the characteristics and distribution of the population."

Lowell J. Reed, Ph.D., *Chairman* of the subcommittee, and his committee have been asked to assume this as one of their tasks.

The Committee on Research and Standards has also been represented on committees of the American Standards Association. I shall comment briefly on one. Public health interest in plumbing is quite generally accepted. Two members of the Association have been very actively representing the professional public health worker on the ASA committee preparing a plumbing code. This committee is known as A40. The American Public Health Association is one of the two sponsoring organizations. Preparation of a code that could satisfy all members of A40 proved extremely difficult. It is reported, however, that the text of the code has been agreed upon and now is ready for submission to the ASA for the next routine steps toward adoption. This code is awaited eagerly by people in the field.

For more than ten years the American Public Health Association has been a

participant, along with several other professional societies, in the preparation of a *Glossary of Water and Sewage Terms*. Originally we had two subcommittees active in this endeavor, but last year Sol Pincus was appointed to carry on the work of both. He reports completion of the editorial work on the *Glossary*. All that remains now before actual printing begins is a settlement of the financial arrangements under which the report will be published.

The Committee on Research and Standards is deeply appreciative of its associated committees which constitute the continuing activities under its auspices; it is also deeply aware of its responsibility for maintaining the high standards they have already set. Through their persistent endeavors we can look with confidence to the proper fulfillment of the committee's responsibilities in the formulation of standards of measurement for the Association.

On the other hand, the present committee has considered in detail the functions of Research and Standards in relation to research. There has been more progress in medical research during this century than in all previous history. Funds are more readily available and the public is more conscious of the need for investigation, both fundamental and applied. An association of this size must provide a constant urge to all divisions of public health to desire controlled scientific evaluation of their problems. It appears that a tendency has developed to consider this committee as a compiling and reviewing board with but a limited responsibility for the initiation and projection of research. If the editorial were the only function of the committee it might preferably give way to the Coördinating Committee. This concept is not in complete agreement with the objectives originally assigned to the committee nor with the desires of the present committee. The studies on the Hygiene of Housing are a striking example of progressive investigation under the committee's auspices. It is believed that other explorations should be initiated and prosecuted when it seems desirable for the advancement of the public health and the good of the Association. Although it is unlikely that the committee as such would undertake actual operation of a research project, there seems no reason why it should not if a suitable occasion should arise. There is a strong conviction that this committee should be active rather than passive in the development of research; that it should critically review research work in progress, suggest new research, attempt to interest suitable agencies in conducting work, and when desirable to seek support for it. Even the interpretation of what is meant by the "technical" branches of public health service is subject to a broad definition, for in many instances a frank approach by the experimental method will result in the testing of impressions and the establishment of data which cannot be obtained by philosophic agreement, compromised opinions, and the weight of authority. Just as the field of social sciences suffers from an unwillingness to apply scientific methods because of the scope of the problem, so may many problems in public health be delayed from reaching proper conclusions by reluctance to undertake sizable experiments. It is my belief that this committee should strive to overcome that defect and that this Association should lead the way in submitting important questions to actual test. The success of the "methods" activities has been due to their reliance upon the scientific evaluation of their procedures. Untested authority is valueless.

In order to clarify its situation the committee at its meeting of March 6 requested that the terms of reference be changed to state that it shall be responsible for initiating, conducting, pro-

moting, coördinating, and reviewing research and for the development of standards in the technical branches of public health. In this sense it will strive to encourage the undertaking of investigations by Sections or other interested groups; to suggest problems which might properly come within their purview; to bring together independent but interested investigators for cross-fertilization of ideas leading toward the solution of a problem. It should ask for suggestions through which this or other Association committees could contribute effectively to the advancement of knowledge. Research should not be limited to problems of immediate applicability; it should not be a china egg over which a misguided hen sits and clucks. At the same time we should not make a fetish of the word "research."

In order to gain momentum for this point of view, the committee has asked the different Sections to furnish a list of problems with which they may be engaged, to suggest problems which they would like to see implemented, and to invite members of sectional or other committees to tell the Committee on Research and Standards of their activities. It is believed that problems which may come to the committee can be referred to the Sections in whose channels of interest they may lie. It is also believed that professional assistance in the central office should be provided for the Committee on Research and Standards so as to review numerous committee reports, study technical projects of the Sections, and serve as technical adviser to committees meeting independently. It is also suggested that the Sections spend some time at this Annual Meeting in consideration of problems which should be submitted to investigation. In response to a questionnaire sent to each Section Secretary, eleven replies were received. Most of them stated that they were not engaged in any research although this may be a matter of interpretation. Four Sections made specific recommendations as to research. These will function as a nucleus for considerations by the Committee on Research and Standards at its meeting.

Several referees were appointed at our last meeting to study special problems that have arisen recently. Their reports and recommendations will be submitted at our meeting on Wednesday evening. You will be interested in knowing the subjects involved.

At our last meeting, in Atlantic City, you were presented with a proposed resolution calling for approval of the topical application of fluorides in the prevention of dental caries. At the time you thought the evidence available did not warrant definite action, and so this committee was asked to explore the subject. The evidence has been undergoing a thorough review since March, 1948, and a recommendation should be available for you following our meeting.

Four technical reports of various Sections were referred to referees to determine need for revision in view of technical changes which may have occurred since publication. One of them, *Recommended Practice for the Design, Equipment and Operation of Swimming Pools and Other Public Bathing Places,* is now being revised and will probably be considered during our meeting. If favorable action is taken you will probably be asked by mail ballot to vote on its acceptance as an Association report. It has already been accepted by the Conference of State Sanitary Engineers, co-sponsor with the Association.

Another referee is considering an invitation to participate in an international committee for enteric phage typing. Still another is exploring the need for an authoritative manual for the guidance of administrators of isolation hospitals. Considerable data have already been collected describing policies now in use at isolation hospitals.

I have briefly reviewed the accom-

plishments and the burgeonings of the Committee on Research and Standards. It is my great pleasure to point to the obvious: the fact that they derive from the interest and efforts of many participants. I hope, too, that this statement will reflect the spirit of the committee and its desire to fulfil its assignments and to advance the field of scientific learning in public health.

THOMAS FRANCIS, JR., M.D.,
University of Michigan, Ann Arbor, Mich., *Chairman*

The Control of Typhoid Carriers*

Committee on Administrative Practice

WITH the elimination of waterborne, milk-borne, and other foodborne epidemics of typhoid fever, brought about by the continuous improvement in sanitation, the time has arrived in many areas when the residuum of typhoid fever is coming almost entirely from typhoid carriers. These carriers are those of the former victims of typhoid fever (one out of 30) who have never ceased to excrete the organisms.

Unfortunately, only a small number of these carriers are known to health agencies because at times in the past release cultures were either not obtained or were examined in laboratories whose methods failed to disclose the typhoid bacilli. In many states the estimated number of living typhoid carriers is 25 to 50 times the number of cases of typhoid fever reported in any single year. The chronic carriers left over from former days of high prevalence are, therefore, much more important sources of new cases than the current cases of the disease. This is particularly true since none of these carriers, except those on registers of health departments, know that they are a danger to their relatives and associates.

In those states where typhoid fever has been brought to a very low level, it is estimated that more than one-half of these carriers are over 60 years of age. It is evident that within a few years the typhoid fever arising from chronic carriers is destined to drop to even lower levels.

In the meanwhile, if those carriers who are producing our current cases can be discovered and put under supervision, a considerable contribution can be made in further reducing the number of cases.

In order to reduce the frequency of the chronic carrier as a source of new cases, the following procedures are recommended:

LIST OF CHRONIC CARRIERS

The health department of each state, territory, and province should maintain a list of all permanent typhoid carriers within its jurisdiction. The name of any person placed upon this list should not be removed from it until his death, or until he is found no longer to be a carrier under criteria outlined below. Each person on the list should be visited at least semiannually by a representative of the state, territorial, or provincial health department, or by a well trained person in a local health department. It should be recommended or required that all persons living in a household with a typhoid carrier, except those who have had typhoid fever, be given typhoid vaccine. The primary course of vaccine should consist of three subcutaneous doses of 0.5 ml., 0.5 ml., and 0.5 ml. at intervals of not less than a week apart, followed by annual stimulating doses of 0.5 ml. subcutaneously, or 0.1 ml. intracutaneously.

DEFINITION OF A CHRONIC CARRIER

A chronic typhoid carrier is a person who has not suffered from typhoid fever within the previous 12 months and who persistently discharges typhoid bacilli.

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* Report of Study Group.
STUDY GROUP ON TYPHOID FEVER OF THE SUBCOMMITTEE ON EVALUATION OF ADMINISTRATIVE PRACTICES.

Such carriers usually fall into the following three groups:

1. Convalescent cases of typhoid fever who continue to excrete typhoid bacilli for more than 12 months after onset.
2. Persons discovered in routine laboratory examinations or in epidemiological investigations to have a history of an illness resembling typhoid fever more than 1 year previously, or who have apparently been sources of other cases of typhoid fever, and who show stools positive for typhoid bacilli on two successive specimens.
3. Persons discovered accidentally to be harboring typhoid bacilli, even though there is no history of a presumptive typhoid illness, who continue to excrete typhoid bacilli for 2 months after discovery.

REGULATIONS REGARDING TYPHOID CARRIERS

Each state, territory, and province should have regulations prohibiting convalescent and chronic carriers from preparing food for the public, including particularly the handling of milk and milk products on farms or in milk plants. Unless the carrier is coöperative, intelligent, and can be depended upon to observe proper precautions he should not be allowed to care for the sick or for children. Each carrier should receive instructions or be asked to sign an agreement that he will not prepare food for any person except members of his own household who have been vaccinated against typhoid fever within 2 years; that he will wash his hands thoroughly with soap and water after each visit to the toilet; that in case of sickness or accident he will inform the physician, nurse, or other attendant that he is a typhoid carrier; and that he will inform the health department in advance of each change of address.

Typhoid carriers should be told that as long as they live up to their agreement, the fact that they are carriers will be kept confidential. In notifying a local health agency that a carrier has moved into its jurisdiction, this confidential relationship should be emphasized.

SEARCH FOR CARRIERS

1. *Convalescents* — A very productive method of discovering carriers is to follow current cases of typhoid fever through convalescence with periodic stool and urine cultures. Three to 5 per cent of convalescents will continue to excrete organisms for more than 12 months. Those who are shown by repeated laboratory examinations to be harboring typhoid bacilli and excreting them constantly or intermittently for more than 12 months, should be regarded as chronic carriers and placed upon the permanent carrier list. Less administrative effort is spent in finding carriers by release cultures than by any other method. Moreover, they can be kept under continuous supervision so that they will not be responsible for other persons becoming infected. Those who escape supervision often are found later to be a source of a case of typhoid fever.

2. *Epidemiological Investigations* — A most fruitful method of discovering chronic carriers is to uncover individuals responsible for current cases. In some instances, as simple a method as the routine culturing of adult members of the household will point to the carrier. Children and adolescents are unlikely to be carriers unless there is a history of illness resembling typhoid fever. Cases of the disease occur most frequently in a new person who is introduced into a household where there is a typhoid carrier, or when a typhoid carrier is introduced into a new household. It is often necessary to extend the investigation outside the immediate household to discover the carrier. Since a majority of typhoid carriers are over 50 years of age, carriers can be discovered occasionally by culturing the older members of households where a typhoid fever patient has been visiting recently, or by culturing the older persons among visitors who have recently been in the household of the ill person. Phage typing

can be used to verify that the carrier under suspicion is responsible for the case or outbreak.

3. *Examination of food handlers*—A less productive method of discovering chronic typhoid carriers is to examine stool specimens from persons working as food handlers. Such examinations should be selective and not routine. Hundreds of examinations can be made without finding a single carrier. It is wise to obtain stool specimens from food handlers who give a history simulating that of typhoid fever.

4. *Examination of bile from cholecystectomies*—The routine examination of bile from gall bladders removed at cholecystectomy can be used as an additional method of discovering carriers.

Since a large proportion of chronic carriers will show positive or partial agglutination tests, in areas where typhoid vaccine is seldom given, Widal reactions performed upon contacts of typhoid fever cases give useful information. Any persons who show a positive or partial reaction and who have no history of having received typhoid vaccine should be required to submit at least two stool specimens, if the first one fails to disclose typhoid bacilli. It must be borne in mind, however, that many carriers do not show agglutinins in significant titers. In areas where typhoid vaccine is widely given, the Widal is of little value, but agglutination tests with VI antigen have been found to be useful in pointing to typhoid carriers. There is no doubt as to the authenticity of specimens when blood samples are taken for agglutination tests.

All laboratory examinations for the discovery and control of carriers should be performed in the laboratory of the state, territory, or province, or in other laboratories approved for enteric examinations.

CRITERIA FOR THE CURE OF CARRIERS

It is unusual to find an exception to the rule that those individuals who continue to be carriers of typhoid bacilli for more than 12 months after the onset of typhoid fever will be carriers for the rest of their lives, unless the focus is removed by operation. No drug or antibiotic has yet been found which gives consistent results in eliminating typhoid bacilli from such foci. Only a few spontaneous cures without operation have been recorded, and any such reported instances should be thoroughly verified by appropriate laboratory tests before declaring the person cured.

CURE OF CARRIERS BY CHOLECYSTECTOMY

Since the focus in most instances is in the gall bladder, a high per cent of carriers can be cured by cholecystectomy. Such an operation should not be recommended or undertaken until it has been determined by examination of bile obtained by duodenal tube that the person is probably a gall bladder carrier. An examination of the contents of the gall bladder after operation will confirm that it is the focus. In most instances the gall bladder of a typhoid carrier will contain stones.

A typhoid carrier who has had his gall bladder removed will often continue to excrete typhoid bacilli for several days, and in some instances for 1 to 6 months after operation. When the stool specimens become negative, monthly specimens should be obtained until 12 months have elapsed since the first negative specimen. Final release should be dependent upon the failure to find typhoid bacilli in bile obtained by duodenal tube, and the examination of the next two stool specimens after giving magnesium sulphate through the duodenal tube. Before reporting the bile specimen as negative, the laboratory should verify that the specimen obtained really consists of bile.

The only deviation from this policy of requiring cholecystectomy for release should be for those persons placed upon

the carrier list in the past upon insufficient evidence. Some of those who were placed upon the list less than 1 year after onset may be found to have ceased to excrete organisms. In such instances a series of negative stools should be required which on laboratory examination are found not to contain typhoid bacilli. At least one or two of such stool specimens should be proved to be authentic by obtaining the specimen under supervision, or by giving lycopodium in the presence of a representative of the health department, followed by finding the lycopodium granules microscopically in the specimen submitted.

Carriers found to be harboring the bacilli in the kidney or other location may be cured if the focus can be removed. Criteria for cure depend upon examination of the appropriate secretion or excretion which formerly contained the organisms.

SALMONELLA CARRIERS

Similar procedures should be followed in handling persons found to be carriers of salmonella organisms. The salmonella species which produce a bacteremia will usually localize in the gall bladder. Those which produce only gastroenteritis may establish a focus elsewhere. Previous bile drainage is therefore quite important before operation is recommended.

SHIGELLA CARRIERS

Permanent carriers of Flexner and Sonne bacilli are very seldom encountered. Procedures similar to those recommended for typhoid carriers can be followed if a permanent shigella carrier is found. The focus would probably not be in the gall bladder.

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(This report was completed before aureomycin was found to be effective in treating patients and carriers. If the favorable results of aureomycin are corroborated by subsequent studies, procedures for carrier control may have to be substantially modified. ED.)

Coördinating Committee on Laboratory Methods*

Committee on Research and Standards

THIS is the first annual report that the Coördinating Committee on Laboratory Methods has been privileged to present. Since its establishment at the 1947 Annual Meeting of the Association it has functioned under the wing of the Committee on Research and Standards, one of the Standing Committees of the Association.

The Coördinating Committee on Laboratory Methods supersedes the Coordinating Committee on Standard Methods which, after its inception in 1933, had a long and creditable record of accomplishments under the auspices of the Laboratory Section, during most of this time under the very able leadership of Colonel Arthur Parker Hitchens. The objectives behind the establishment of the Coördinating Committee on Laboratory Methods were to establish a liaison between the work of the committees preparing laboratory methods and the several Sections of the Association having an interest in the use or the application of any of the various laboratory methods which the Association may foster, and to reduce the time elapsing between the preparation of manuscripts and their publication.

The personnel of the CCLM was selected by the Committee on Research and Standards and appointed as soon as possible after the 1947 Annual Meeting. The interests of all of the Sections having a stake in laboratory methods seem to be well represented in the personnel of the committee. An organization meeting of the new committee was held in the City of New York on March 6, 1948. At this meeting much time was devoted to discussion of the proper fields of activity for the committee and to organization of the work in relation to the Association and its Sections as well as to other interested groups.

It was a decision of the committee that CCLM should deal primarily with laboratory activities that are the concern of more than one Section of the Association. It was the consensus of the group that a committee working on a specific laboratory problem should have representation from all Sections of the Association concerned with the activity under consideration and that appointments to membership on the working laboratory committees should be made in consultation with the Section Council of the Section with which the prospective appointee is affiliated, as is provided in items 1.2 and 2.32 of the "Outline of Organization." It was visualized that some Sections may continue their own committees on methods or laboratory procedures which do not affect the interests of other Sections of the Association.

Up to the present time the CCLM has not established committees to function in some of the fields previously covered by the Coördinating Committee

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* Report of the Chairman.
COÖRDINATING COMMITTEE ON STANDARD METHODS.
Organized 1921. Established 1933.
COÖRDINATING COMMITTEE ON LABORATORY METHODS.
Organized under the Committee on Research and Standards 1947.

on Standard Methods of the Laboratory Section. Examples are the biology of the laboratory animal and the field of examining germicides and antimicrobial agents. The committees named below have been established:

Standard Methods Committee for the Examination of Water and Sewage
Standard Methods Committee for the Examination of Milk and Milk Products (Including Frozen Desserts)
Committee for the Examination of Shellfish
Committee on Diagnostic Procedures and Reagents
Committee on Therapeutic and Diagnostic Biological Products
Committee on Virus and Rickettsial Diseases
Committee on Microbiological Examination of Foods

Below in this report are presented brief summaries of the activities of these seven committees for the short period of time they have existed under the auspices of CCLM.

Standard Methods Committee on Examination of Water and Sewage—

No report to the Coördinating Committee has been received from the chairman of the committee, Dr. Walter L. Mallmann. The most recent edition of *Standard Methods for the Examination of Water and Sewage* was the 9th, published in 1946. Both the CCLM and the chairman of the water and sewage committee were approached early in the year by the Association's representative on the joint committee of the three participating associations (the American Public Health Association, the American Water Works Association, and the Federation of Sewage Works Associations) with the request that the committee become immediately active in the preparation of material for a 10th Edition of the report. We were informed that the other two coöperating associations have done considerable work toward that edition and await the active participation of our committee. Consideration will be given to this matter at the meeting of CCLM that is to be held in connection with this Annual Meeting.

Standard Methods Committee for the Examination of Milk and Milk Products (Including Frozen Desserts)—

An excellent report of the work of this committee during the year has been submitted by the chairman, Dr. Archie H. Robertson. The 9th Edition of *Standard Methods for the Examination of Dairy Products* became available in August, 1948. Much improved in content and offering up-to-the-minute laboratory procedures for the examination of milk and a variety of milk products, the book is decidedly easier to use than were previous editions, because of the introduction of a simple cross-reference system. The reader will discover another innovation in that all of Chapter I of this volume is given over to a well arranged discussion of the applications and interpretations of the laboratory methods on milk and milk products that in previous editions were scattered throughout the text. This chapter is complete and well arranged, and contains much new material. Accordingly, this edition should become a valuable reference book for the health official or sanitarian in determining tests applicable to a given milk supply and in evaluating the laboratory findings. The chapters containing specific directions for laboratory procedures, now not interspersed with comments regarding interpretation, become much more readily intelligible to the laboratory worker.

The CCLM has authorized the Committee on Milk and Milk Products to publish Chapter II of the above mentioned volume as a paper-bound reprint. That chapter dealing with "Microbiological Methods for Milk and Cream" is the portion of the book most widely used in laboratories and by students and others. The reprint will be

available soon at a reasonable price.*

A subcommittee of the Committee on Milk and Milk Products has in manuscript a revision of Chapter II in a so-called "cook-book" style. This is an attempt to meet a demand from teachers of bacteriology for a simple laboratory guide at a low price. The little circular should play a part in bringing about uniformity of instruction among students, and the instruction they receive will be based on standard method procedures. The CCLM will soon be asked to approve this manuscript.

The Committee on Milk and Milk Products is already actively at work studying proposed revisions to improve even further the directions in a forthcoming 10th Edition of the milk and milk products methods report. Chief among the projects under study is a proposed modification or replacement of the currently recommended plate-count medium which is said to be simpler to prepare and which possibly may grow more colonies. Preparatory to revising the next edition the committee is having papers presented at this Annual Meeting on modified staining procedures for the direct microscopic method. Moreover, the committee is coöperating with the Association of Official Agricultural Chemists in the hope of securing full uniformity in the procedures for determining sediment, making phosphatase tests, and carrying on other tests in which both Associations are interested.

Committee on the Examination of Shellfish—

This committee last presented a report in the September, 1947, issue of the *American Journal of Public Health.* The chairman, James Gibbard, reports that during the year the only activity of the committee has been through correspondence between the chairman and the members. The committee seems to feel that the recommended procedures so far formulated are only a part of a much larger job, and it is looking forward to a publication dealing with the many laboratory aspects of the shellfish problem; namely, bacteriological procedures, chemical methods so far as they are applicable, the biology of the several species of shellfish, shellfish poisoning, enteric infections traceable to shellfish, sanitation of shucking and handling establishments, shellfish culture, and related topics.

Committee on Diagnostic Procedures and Reagents—

This committee, under the chairmanship of Dr. Ralph S. Muckenfuss, has been very active during the year in preparing the 3rd Edition of *Diagnostic Procedures and Reagents.* The earlier editions of this manual of technics for the laboratory diagnosis of the communicable diseases have had wide acceptance, and the 2nd Edition particularly has become a standard textbook in most diagnostic laboratories, large and small, throughout the territory served by the Association. The 3rd Edition is being revised to include a new chapter on Determinations of Levels of Antibiotics and Response to Bacteria by Caroline Falk, and one on Rh Testing by Dr. Philip Levine. In the main the same authors have been retained to revise and bring up to date the technic for the disease to which they were previously assigned although in a few instances the name of a new author of a chapter appears. The chapters on virus and rickettsial diseases, including those on Typhus and Rickettsial Fevers, Lymphogranuloma Venereum, and Rabies, were referred to the Committee on Virus and Rickettsial Diseases and appear in the manual published by that committee. The 3rd Edition of *Diagnostic Procedures and Reagents* is now in manuscript form and will very likely

* Since this report was presented, the reprint has been made available for 75 cents.

be submitted to the CCLM at this Annual Meeting for approval.

Committee on Therapeutic and Diagnostic Biological Products—

This is a new committee established to devote attention to diagnostic as well as to therapeutic biological products. It is not anticipated by the CCLM that it will be the intention of the new committee to prepare an extensive manual of tests to determine the efficacy of biological products in general. It seemed to the Coördinating Committee at its organization meeting that the functions of a committee dealing with the several aspects of therapeutic and diagnostic biological products would of necessity extend beyond the field of work of any one Section. It seemed wise to establish a committee in this field and request it after study to recommend to the CCLM what may be necessary in the way of activity in this direction by the Association. The chairman of the Committee on Diagnostic and Therapeutic Biologic Products, Dr. John T. Tripp, has reported to the CCLM that he has been active with the members of his committee in studying the field of activity of the new committee and that he is calling the group together for its first meeting. A report is expected to be forthcoming during this Annual Meeting of the Association.

Committee on Diagnostic Procedures in Virus and Rickettsial Diseases—

This committee, under the chairmanship of Dr. Thomas Francis, Jr., is to be complimented on bringing out in May of this year the first edition of *Diagnostic Procedures in Virus and Rickettsial Diseases,* a 347 page laboratory manual by a selected group of experts that is the first adequate compilation of laboratory procedures in its field. The wide sale that the book has already had is indication of the need for and the general acceptance of the volume. The preface states that no pretense is made that an exhaustive review of all possible technics has been produced or that the procedures have been standardized to the satisfaction of all laboratory workers. Instead, the methods are presented by the committee as those most generally found dependable by the active workers in this relatively new field of laboratory activity. It is the feeling of your Coördinating Committee that the Association and its members will be as proud of this publication, in the several editions through which it is likely to appear, as it has been of the widely accepted companion publications of the Association in the field of laboratory methods.

Committee for the Microbiological Examination of Foods—

Since the Committee on Microbiological Examination of Foods was selected by the CCLM as one of the subcommittees to function under its guidance, the activities of this committee, have been, according to the report of its chairman, Dr. Harry E. Goresline, largely devoted to consolidation of the work of previous years. Reprints of all previously developed methods that had been published from time to time were obtained and the methods described therein are being revised by the committee to get them in line with recent developments, to present them under a more uniform pattern, and to eliminate duplication among them. A preliminary set of Methods for the Microbiological Examination of Dehydrated Fruits and Vegetables has been developed during the year and presented to the CCLM for approval. The chairman has reported that the work of bringing these methods together was largely that of Matthew E. Highlands, a member of the committee. Work is also being done by the committee in the relatively new field of pre-cooked frozen foods. The committee is hopeful

that a manuscript of a manual for the microbiological examination of foods will before too long a time become an accomplished fact.

Aims of the Coördinating Committee—

As the Coördinating Committee on Laboratory Methods has been functioning less than a year it is hoped that the Committee on Research and Standards, the members of the Association and the Section Councils of the several Sections will consider this as a progress report made too soon after the formation of the committee for much to have been accomplished, especially since only one meeting could be held for the purpose of organizing and apportioning work to subcommittees. The committee hopes to function so as to relieve the Committee on Research and Standards of a multiplicity of detail in respect to laboratory methods.

A major goal is the publication by the Association of the kind of laboratory methods that will continue to keep the American Public Health Association in the forefront of the public health laboratory field. To attain that goal close coöperation will be sought not only with the several Sections of the Association that have interests affected by the preparation or use of laboratory methods but also with other associations and organizations interested in the publication of laboratory methods. The Coördinating Committee on Laboratory Methods solicits assistance and suggestions from all sources to aid it in its important task.

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Standard Methods for the Examination of Dairy Products*

Committee on Research and Standards

YOUR Chairman is happy to report that copies of the Ninth Edition of *Standard Methods for the Examination of Dairy Products* became available late in August, 1948. The introduction of a simple cross-reference system for the thirteen chapters, and the carefully organized arrangement of the applications and interpretations of quality tests in Chapter 1, makes Standard Methods distinctively useful both to administrators and to laboratory workers.

By authorization of the Coördinating Committee on Laboratory Methods, Chapter 2, on Microbiological Methods for Milk and Cream, will be offered for sale as a paper-bound reprint.† While administrators, laboratory chiefs, heads of college departments and libraries will want copies of the complete edition, many workers actually engaged in the examination of milk and cream samples by one or more of the four recognized routine procedures will want copies of the separate. Many teachers of dairy sanitation will want their students to have copies as a reminder after graduation that there is a Standard Methods and an American Public Health Association.

Dr. Samuel R. Damon, as Subcommittee Chairman, has nearly completed a so-called "cook-book" style of revision of Chapter 2. The intent is to provide teachers of bacteriology with a simple laboratory guide, which in turn will establish greater uniformity of instruction among students. Like the separate referred to above, reprints of this will be made available at a reasonable price to laboratory workers and to students taking college courses. The title of the report will be "Microbiological Examination of Milk and Cream, Laboratory Outline."

Because of the inconvenience of incorporating skim milk solids uniformly in the tryptone glucose beef extract agar plating medium and the tendency for these solids to precipitate when the medium is melted before pouring the plates, considerable thought has been focused on replacing the officially recognized medium with one which does not require the addition of skim milk or skim milk solids as such. Any substitute medium should provide equally as good growth of bacterial colonies as, if not better than, the present medium provides. The standard plate count obtained thereon should be essentially the same as that obtained on the accepted official standard medium. Reports of progress on this project will be made during the week.

New and/or modified staining procedures for milk films used in the direct microscopic method have been proposed. During the week, reports will be presented on these staining techniques.

The present practice of using a rinse method for determining the practical sterility of certain types of dairy equipment has been questioned. Studies are now in progress to determine whether or

* Report of the Committee to the Coördinating Committee on Laboratory Methods. First published report 1910.

† Now available for 75¢.

not the swab contact technique should not replace the rinsing procedure when testing milk cans for their sterility.

The method for Sediment in Milk, appearing in Chapter 9 in *Standard Methods,* is being considered favorably by the Association of Official Agricultural Chemists for inclusion in their *Book of Methods.*

Because of problems encountered with the melting of frozen dessert samples before removing representative test portions therefrom, a subcommittee, with Dr. Leon Buchbinder as chairman, is studying the details of an optional procedure for weighing test portions of the unmelted frozen dessert directly into dilution bottles.

The Association of Official Agricultural Chemists at their meeting in October, 1947, authorized the deletion of all previously recognized methods for the determination of residual phosphatase in pasteurized milk, and in place thereof voted to accept the Sanders-Sager method. A quotation from the February, 1948, issue of their *Journal,* page 82, follows:

> The following method was adopted as official, first action, for fluid milk and cream, cheddar type cheese, and soft uncured cheeses, and as tentative for other types of cheese, ice cream mix, sherbet mix, chocolate-flavored milks and skim milk, butter, sweet-cream and cultured buttermilks, fermented milks, goats' milk, cheese whey, and concentrated milks.

For years the New York State Department of Health method and one or more modifications of the New York City Department of Health method for phosphatase have been officially recognized by both the American Public Health Association and by the Association of Official Agricultural Chemists. The deleted procedures are well known and have been used successfully to correct faulty pasteurization practices as to fluid milk and cream. At the time of approving the manuscript for the Ninth Edition of *Standard Methods,* the Sanders-Sager method, originally developed for determining residual phosphatase in cheddar type cheese, was likewise in the manuscript stage. Although the original Sanders-Sager method requires many special modifications according to the product examined, it does have desirable features not possessed by any of the other methods. The Ninth Edition contains a description of this method as it applies to hard type cheese only.

As many of you know, we are working coöperatively with the Association of Official Agricultural Chemists to the extent that with their permission we are quoting from their *Book of Methods* many of their chemical procedures for analyzing dairy products. In this case, we cannot ignore their approval of the Sanders-Sager procedure with its wide application. In order to give an opportunity to compare the several methods, multilithed copies of the Sanders-Sager method may be obtained by addressing a request to the American Public Health Association.

Plans are now under way by the AOAC to enlist the help of collaborators in public health laboratories early in 1949 to compare the phosphatase method commonly used on fluid milk and/or cream in their laboratories with the Sanders-Sager method. Many laboratories in which the New York State Department of Health method and/or the New York City Department of Health Laboratory method are now used will want to take an active part in the collaborative work.

Dr. E. H. Parfitt reported that in 1944 representatives from The Dairy Industry Committee (Washington, D. C.), the International Association of Milk and Food Sanitarians, and the U. S. Public Health Service joined in inaugurating an industry and country-wide program to establish minimum sanitary standards for dairy equipment. The purpose was to stabilize the prac-

tices of the equipment manufacturers and at the same time to assure that an increasing proportion of the dairy equipment sold will be suitably designed. Although the acceptance of standards is voluntary, the accomplishments to date disclose almost unanimous acceptance by fabricators and buyers of equipment.

The coördinating program has served to guide buyers after the war in the replacement of old and worn equipment with new equipment acceptable in all markets for all types of dairy products, and to assure that standards in one city will be less apt to conflict with standards in another city. Much of the equipment is made of stainless steel, which offers potentially longer usage, and in turn creates the need for more care in designing the same.

Since 1944, standards have been promulgated for holding tanks, weigh and receiving tanks, pumps, homogenizers, and fittings used on milk pipe lines. In 1949 the committee hopes to complete its standards for transportation tanks, electric motors, can washers, heat exchangers of the plate, tube, and surface types, milk filters, milk pails and strainers, and milking machines.

The benefits derived by the dairy industry may serve as a guide for other branches of the food industry, because it has been demonstrated that proper design results in increasing ease with which equipment may be cleaned and kept in a sanitary condition.

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Methods for the Microbiological Examination of Foods*

Committee on Research and Standards

THE activity of the committee during the year has been largely that of consolidating the work of previous years. Reprints of all previously developed methods were obtained from the Association and these are being revised to bring them into line with more recent developments, obtain a more uniform pattern of presenting the methods, and to eliminate duplication. Agreement is being sought among members of the committee on the establishment of incubation temperatures of 32° C., 37° C., and 55° C. as standard for food products and the elimination of odd temperatures. This is for the purpose of obtaining more uniform results and to eliminate the necessity of laboratories maintaining a number of expensive incubators. Agreement is also being sought on a simplification of the types of bacteriological media to be used. It is believed that this will assist in obtaining more uniform agreement of results between laboratories and at the same time be a saving in time and expense.

A preliminary set of methods for the Microbiological Examination of Dehydrated Fruits and Vegetables has been developed during the year and is presented for approval. The work of bringing these methods together is largely that of Matthew E. Highlands of the committee.

It was hoped that methods on Precooked Frozen Foods and on Mayonnaise and Salad Dressings could be presented at this time, but considerable new preliminary work was necessary to produce satisfactory methods. The field of Pre-cooked Frozen Foods is a new one, and Dr. B. E. Proctor is conducting research on methods for use in that field and in testing their adaptability to plant operations and routine examination. Dr. F. W. Fabian is conducting research on methods and their application in the Mayonnaise and Salad Dressing field.

TENTATIVE METHODS FOR THE MICROBIOLOGICAL EXAMINATION OF DEHYDRATED FRUITS AND VEGETABLES

Microbiological examination of dehydrated and dried fruits and vegetables has received some attention in the past but there has been little evidence of standardization with regard to methods of analyses employed. Dried fruits have had rather more attention in relation to microbiological populations and their effects on the dried product, but there appears to be at the time of writing no standardized methods of examination for microbial populations in dried fruits.

Following World War I, Prescott [1, 2] studied the microflora of some twenty commercially dehydrated fruits and vegetables, using plain agar, glucose agar, and litmus agar, and reported that counts of bacteria varied from 60 to 2,000,000 per gram of sample while

* Report of the Committee on Standard Methods for the Microbiological Examination of Foods of the Coördinating Committee on Laboratory Methods.

COMMITTEE ON MICROBIOLOGICAL EXAMINATION OF FOODS.

Organized 1932. Formerly under the Food and Nutrition Section. As such the following Reports were published: *Year Books*, 1935–1936, 1937–1938, 1941–1942, *A.J.P.H.*, June, 1943; August, 1945, April, 1946. *Year Book*, 1947–1948.

mold counts varied from 20 to 600. Types of organisms encountered were nonpathogenic. Later Prescott[3] and others investigated freshly dehydrated vegetables with similar results. Risbeth[4] examining dehydrated vegetables found that the majority of surviving organisms were Gram-positive spore forming rods and cocci. A few coliform types were also encountered and various fungi and yeasts were frequently found. Potential pathogens were rare. Counts for dehydrated vegetables varied from the order of 10^3 to 10^6 per gm. of sample and the organisms appeared to occur mainly on the surface of the vegetables. He indicated that the plate count is useful as a guide to the conditions of plant sanitation. Lochhead[5] indicates that as a result of researches an acceptable limit of 50,000 bacteria per gm. can be placed on dehydrated vegetables which have been subjected to blanching during processing. The Division of Bacteriology and Dairy Research, Department of Agriculture, Dominion of Canada,[6] in their published methods for bacteriological analysis of dehydrated vegetables recommended a total viable bacterial count, a thermophilic bacterial count, and a coliform bacterial determination.

The microbiological populations of dried and dehydrated fruits differ considerably from those of dehydrated vegetables in that yeasts and molds are the predominating organisms encountered with bacteria occurring in smaller numbers, Phaff.[7] In the case of dehydrated vegetables few yeasts should be encountered but bacteria and molds occur frequently. The presence of large numbers of organisms in any of these products indicates poor plant sanitation and handling, or substandard quality of the raw products prior to processing.

From reports in the literature it would appear that microbiological examination of dehydrated fruits and vegetables should include viable plate counts for bacteria, yeasts and molds, and a direct microscopic count to establish previous sanitary history. Thermophilic bacterial count should be included when the dehydrated material is intended as an ingredient in a product that might undergo thermophilic spoilage.

In this report the products to be examined are divided into two main groups as follows:

I. Dehydrated or Dried Vegetables
  A. Leafy Vegetables
  B. Root Vegetables
II. Dehydrated or Dried Fruits

COLLECTION AND HANDLING OF SAMPLES

Sample containers should be moisture-proof screw top glass jars, and prior to use should be cleaned, rinsed in distilled water, dried, and sterilized.

Samples of dried or dehydrated vegetables and fruits should be collected, using aseptic techniques. Care must be exercised to secure a representative sample. At least a 16 oz. sample should be taken from each lot or container of product under examination. If in small packages, a representative sample should be taken from several packages. Following selection, samples should be handled in such a manner that no contamination or other changes occur prior to examination, and they should be examined as soon as possible after taking.

MAKING VIABLE MICROBIAL COUNTS

I. *Dehydrated Vegetables*
  A. *Leafy Vegetables*
    1. Aseptically weigh 10 gm. of sample into a sterile screw top pint jar and add 190 ml. of sterile water. Replace screw cap and allow to rehydrate for 2 hours at room temperature, but not to exceed 70° F.
    2. At the end of this period shake thoroughly for 2 minutes.
    3. (a) Prepare suitable dilutions from the above 1:20 dilution according to the procedures given in *Standard Methods for the Examination of Dairy Products*,[8] and pour plates for total viable yeast and mold

counts, using Difco Malt Extract Agar containing 30 gm. of agar per liter and adjusted to a pH of 3.5.

(b) Incubate at 32° C. for 5 days observing the usual practices described in *Standard Methods for the Examinatino of Dairy Products*,[8] and report the counts as numbers of yeasts or molds per gm. of dehydrated product.

(c) Pour plates for total viable bacterial counts according to *Standard Methods for the Examination of Dairy Products*,[8] using Tryptone Glucose Extract Agar.

(d) Incubate plates for 48 hours at 32° C. and report the count as numbers of bacteria per gm. of dehydrated product.

B. *Root Vegetables*

Procedures for examination of dried or dehydrated root vegetables should follow those outlined for leafy vegetables except that it is desirable to permit the original dilution to stand overnight at refrigeration temperatures (32°–36° F.) to permit the sample to rehydrate before proceeding with the shaking of the sample and preparing subsequent dilutions.

II. *Dehydrated or Dried Fruits*

1. For prunes, apricots, peaches, and dates, etc., aseptically weigh 20 pieces of fruit into a sterile screw cap jar and add 200 ml. of sterile water. For raisins, currants, etc., weigh 100 pieces of fruit into similar jars and add 200 ml. of sterile water. Allow to stand 30 minutes at room temperature.
2. Shake for 2 minutes.
3. (a) Prepare suitable dilutions according to procedures given in *Standard Methods for the Examination of Dairy Products*,[8] and pour plates for total viable yeast and mold counts, using Difco Malt Extract Agar containing 30 gm. of agar per liter and adjusted to a pH of 3.5.

(b) Incubate at 32° C. for 5 days and report the counts as numbers of yeasts or molds per gm. of dehydrated fruit.

(c) Pour plates for total viable bacterial counts, using Tryptone Glucose Extract Agar.

(d) Incubate plates for 48 hours at 32° C. and report the count as numbers of bacteria per gm. of dehydrated fruit.

MAKING DIRECT MICROSCOPIC COUNTS

In order to establish the sanitary history of the samples of dehydrated fruits or vegetables, prepare slides for direct microscopic examination according to the method outlined in the *Standard Methods for the Examination of Dairy Products*.[8]

The liquid should be taken from the jar in which the sample was rehydrated, after settling in order to avoid debris, spread on the slide, stained and examined according to the above methods. Report as microörganisms observed per gm. of dehydrated product.

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Public Health Significance, Distribution and Control of Air-borne Pollens*

Engineering Section

IN October, 1947, at the Atlantic City meeting of the American Public Health Association, the Committee on Air Pollution of the Engineering Section presented its first report.[5] The substance of that report was a general review of *atmospheric* pollution and its control. Part of the report was given over to a discussion of pollen control, with a section on the current work being carried on in New York City with regard to ragweed reduction. The committee's entire report has been published in the June, 1948, issue of the *American Journal of Public Health*.

This committee, after consultation between its members, decided that a review of the subject of hay fever pollen control and a statement of pertinent information available at this time could well form the subject of this year's report.

The American Public Health Association offices had been asked for advice on this general subject. There was a considerable amount of interest among public health engineers and other public health officials as to whether an extended program in hay fever pollen control is justified.

OBJECTIVES OF THIS REVIEW

This report is prepared with these objectives in mind:

1. To determine the characteristics of pollen and the factors affecting its air-borne distribution.
2. To review the results of efforts to control hay fever pollens.
3. To provide a theoretical and actual basis for judging the likelihood of success of various pollen control methods.
4. In general, to provide a collection of present knowledge for administrative use by health officials and other individuals or agencies contemplating hay fever control programs.

PUBLIC HEALTH SIGNIFICANCE OF POLLENS

It has been stated[13] that from the standpoint of preventive medicine and public health, the illnesses caused by pollens have not received the attention they deserve. While pollinosis is not an infectious disease, nevertheless it is one which goes through epidemic periods. It is one of the few diseases for which one can predict with much precision, the time of occurrence, the period of duration, and the number of persons who will be affected in a single epidemic.

As hay fevers or pollinoses are not reportable, the number of individuals who are affected is not accurately known. Estimates of the number of persons who suffer from hay fever sometime during the year have been variously given. The U. S. Public Health Service[27] estimated that 2 to 3 per cent of the inhabitants of the area in the United States east of the Rocky Mountains where ragweed pollen is the principal cause of the disease, are affected. A survey conducted by the

* Report of the Committee.
COMMITTEE ON AIR POLLUTION.
Organized 1946. Published Report: *A.J.P.H.* June, 1948.

U. S. Public Health Service [18] (National Health Survey) during 1935–1936 disclosed that hay fever was 4th in prevalence in a list of chronic diseases, (14.3 cases per 1,000 persons among adults 20–64 years of age), exceeded only by (1) rheumatism and allied diseases, (2) cardiovascular-renal diseases, and (3) orthopedic impairments. Dr. Ralph V. Ellis in an article on pollinosis [13] estimates that from 2 to 4 per cent of the United States population suffer from hay fever. He reports a study based on personal histories taken at entrance to the University of Minnesota, which showed that 5 per cent of the students reported having hay fever. He points out that incidence of the disease is approximately equal among the sexes.

It is generally agreed that hay fever is not only common but has been steadily increasing from year to year. This is believed to be a real increase and not one due to better recognition or identification of the disease. R. P. Wodehouse [31] maintains that this increase is due primarily to the continuous increase of hay fever plants, given favorable environments by some of man's farming and urban land-use practices. The etiologic agent is a single living cell, pollen, and in each case, this agent releases a toxic or harmful substance which produces a characteristic effect only in such individuals as are susceptible to its action. The susceptibility is an acquired state and is termed an allergy.

Hay fever usually manifests itself as repeated sneezing and swelling, congestion and watery discharge from the nasal mucous membrane, starting relatively abruptly, and continuing over a prolonged period; the symptoms being produced whenever the individual inhales air with a sufficient concentration of certain pollens. Pollen entering the eyes produces a similar effect. Heredity plays an important part in causing individuals to be predisposed to develop hay fever at some time in their life. The disease develops at unpredictable ages, in babies as well as persons past 60. However, most persons who will develop the disease do so before the age of 30.

The mortality from hay fever is not known accurately but allergists agree that it is probably low. There is no recorded mortality from hay fever alone. However, when asthma supervenes, the mortality may be definitely increased. Dublin [7] concludes that on male risks with asthma, the mortality in the aggregate is 27.4 per cent in excess of that expected by the American Men's Table and 63.7 per cent in excess of the Basic Mortality Table. A majority of those who become susceptible to pollen, sooner or later develop asthma. Thommen [4] reports that pollen asthma occurs in about 35 per cent of all hay fever subjects in New York and vicinity, while Huber [21] reports 54 per cent for Chicago and vicinity. Ellis [13] points out that the incidence of asthma increases with the number of attacks of hay fever. Whereas the incidence of asthma is only 17 per cent among those with a history of 5 attacks or less, about two-thirds are so affected among those in whom the attacks have been repeated 25 or more seasons.

A majority of individuals suffering from pollinosis are susceptible to the excitants of 2 or more pollen groups. Ellis [13] states that without accurate information concerning atmospheric pollen pollution, it is impossible to make an accurate diagnosis of the causes of hay fever for the individual patient. Patients often react positively to skin tests with pollens to which they exhibit no clinical sensitivity. Obviously, the period of illness for the patient must coincide with the period of atmospheric pollution by the pollen which induces a skin reaction, before this has any diagnostic significance.

The amount of time lost and the losses due to reduced efficiency are not

easily estimated. However, it is easy to understand that these are very considerable. Such losses include an inability to get the proper amount of sleep, a production and aggravation of irritability and, particularly, a lack of interest in the usual activities, including the day's work. The eye symptoms may require the elimination of jobs in which the visual tasks are important.

It would appear rather conclusive from the above that the control of hay fever is easily justified as a worth while public health activity, *provided* an effective method is available which

a. Would reduce the amount of all hay fever pollens in the air below the number which would produce hay fever symptoms for all susceptible persons, over a considerable portion of the hay fever season, or
b. Would reduce the amount of all hay fever pollens to an amount which would be sufficient to prevent the disease in *most* sufferers for the duration of their symptoms, or
c. Would reduce the amount of *certain* individual pollens or groups of them to a concentration which would prevent the hay fevers of most sufferers.

As with many public health programs, it becomes an administrative decision as to whether the results to be obtained justify the effort and expenditure of funds necessary to achieve sufficient return. (1) The measurement of the seriousness of the problem, (2) the limitations involved, and (3) the level of accomplishment that could be expected in any one locality will be discussed in principle in the remainder of this report. Unfortunately, there are still considerable gaps in the information available on which such an administrative decision could be based, even if all the principles were known and were sound.

BOTANICAL CHARACTERISTICS OF POLLEN CAUSING HAY FEVER

Wodehouse in his book *Hay Fever Plants*[33] points out what makes some plants cause hay fever. He states that in order to cause hay fever, pollen must have certain characteristics. There are in summation: (a) buoyancy, (b) abundance, (c) allergenic toxicity.

If a plant is entirely entomophilous (pollinated chiefly by insects) it can be unconditionally excluded. If the plant is loosely entomophilous or is amphiphilous (pollinated both by insects and wind) it may be suspected, especially if it belongs to one of the hay fever plant families. But it is only among the truly anemophilous (pollinated chiefly by the agency of wind) that one should look for the important causes of hay fever. And by no means are all of these important, as they possess only one attribute—buoyant pollen. Most anemophilous plants produce or shed far too little pollen or the plants themselves are too scarce to be of any consequence in hay fever production.

The allergenic toxicity is of equal importance. This can be decided with considerable certainty by an actual clinical test with pollen-sensitive individuals. However, this character is found only in certain families of plants. The most important are listed by Wodehouse as follows:

Weeds and Grasses

Gramineae, the grasses
Compositae, ragweeds, mugworts, goldenrods, etc.
Chenopodiaceae, Russian thistle, saltbushes and chenopods
Amaranthaceae, pigweeds and waterhemps
Plantaginaceae, plantain
Polygonaceae, dock and rhubarb

Trees and Shrubs

Betulaceae, birches, alder and hazel
Fagaceae, beeches, oaks and chestnut
Ulmaceae, elms and hackberry
Moraceae, mulberries and paper mulberry
Juglandaceae, walnuts and hickories
Salicaceae, poplars and willows
Aceraceae, maples
Oleaceae, ashes, olive, and privet

Summing these up, Wodehouse in his article in *Natural History*[31] states: "There are other plants which contribute in small degree to the production

of hay fever, but the seven grasses, the two ragweeds and the related false ragweed and bur ragweed, the sagebrushes, mugworts and wormwoods and Russian thistle account for so nearly all of it in North America that without them hay fever could be little more than a local phenomenon of academic interest."

The "seven grasses" listed by him are:

Sweet vernal-grass
June grass
Orchard grass
Timothy
Red top
Bermuda grass
Johnson grass

The two ragweeds, of course, are the short, *Ambrosia elatior* or *Ambrosia artemisiifolia*, and the giant *Ambrosia trifida*.

Three hay fever seasons are distinguishable in the northeastern portion of the United States. They are as follows:

Early-spring hay fever—Caused by pollens discharged from elms, oaks, birches, and poplars which flower early while still leafless. In the South, the cause is pollen from pecan trees; in the cities of the Middle West and Rocky Mountain states, it is boxelder. Around Christmas time, the offender in Texas and Mexico is mountain cedar.

Early-summer hay fever—Sometimes known as the "rose cold." It is more prevalent than early spring hay fever. The cause is pollen from grasses (first five listed above). In the South and West, Bermuda and Johnson grasses are important causes.

Autumn hay fever—This is the one which involves over 80 per cent of all hay fever sufferers. The principal causes in the area east of the Rocky Mountains are the short and giant ragweeds. False ragweed and cocklebur are also involved. Sagebrushes, mugworts, and wormwoods are the offenders in the West.

Ragweeds owe their great abundance to their extraordinary ability to take possession of freshly disturbed or denuded soil and to the longevity of their seeds. Seeds of ragweed have been shown to remain viable after 40 years of burial in sand. Ragweeds are found profuse in vacant lots, waste places, dumps, roadside ditches, and on neglected farm land. The ragweed is an annual plant. It is spoken of by botanists as a "pioneer" plant. It will persist so long as the soil is disturbed but it cannot stand competition. In fact it normally flourishes only a few seasons if left alone and the late-weeds or intermediate group of plants take over the soil which the ragweeds have prepared for them. They, being winter-living plants, will have a good root system developed by spring so as to provide too much competition for the ragweeds.

Considerably later, what is called climax vegetation (association of plants best suited to the climate of the particular locality) will take over from the late-weeds or intermediate stage.

In the urban areas, ragweeds may be highly abundant, especially in the partially settled districts around towns and cities.

Wodehouse points out that the Indians were not bothered by ragweed hay fever, as only along streams and rivers where the undercutting of banks by the water disturbed the soil, could ragweed plants find suitable conditions for their growth. He theorizes that this may explain the huge amounts of pollen discharged by ragweeds as a device developed in an evolutionary way to provide a means of transfer of pollen between the widely scattered plants of the primeval forests.

Somewhat different is the cause of the increase of sagebrushes, mugworts, and wormwoods. These are bad-tasting plants, avoided by grazing animals as long as they can obtain other food, with the result that excessive grazing will remove the other plants leaving these weeds in possession.

Pollen granules are exceedingly minute, although they vary greatly in size, shape, and structure for different species of plants. Their size ranges from about

15 to 45 microns in diameter, although extreme cases may be found of pollens much larger or smaller than this. Some pollens are spherical or nearly so; others have very different shapes. Most have a sculptured outer coating, furrowed, or with pores, spines, and ridges in great variety; some have wings, bladders, or other appendages to assist their flight. Almost all are hygroscopic and individual grains vary considerably in size and weight according to their moisture content. The outer coating is highly resistant. Under favorable conditions it will last for thousands of years. The study of fossil pollens preserved in peat bogs gives considerable information as to climate conditions and periods of the past.

A pollen grain remains alive so long as it retains its ability to fertilize the plant egg cell. This may vary from a few hours to several months. However, the fertilizing ability has apparently nothing to do with the reaction of pollen on sensitive persons. If pollens are kept dry they retain their power to cause hay fever symptoms indefinitely. Pollen that is 20 or more years old is often found to be almost as active as ever in its allergenic properties.

The factors[28] which determine the stability of the allergenic component of a pollen are not fully established. However, it has been shown that storage without adequate drying speeds the rate of denaturation, and more particularly so if stored at relatively warm temperature. Extrinsic moisture (humidity, dew or rain) provides favorable conditions for fermentation and souring of the pollen due to the activity of contaminating microörganisms. Intrinsic moisture is necessary for enzymatic activity within the grain. These denaturing activities can be slowed, if not arrested, by storage at temperatures below freezing or by removal of the moisture to below the critical level for enzyme and microörganism activity.

DISCHARGE OF POLLEN

The amount of pollen discharged to the atmosphere in any given area will depend on a number of factors[8]:

1. Pollen output of the individual plant flower—This is a function of the species and size of plant. Erdtman[14] reports some counts of pollen granules from individual flowers of trees, ranging from 10,000 to 1,800,000 grains.

2. The size of the plant—More pollen will be discharged from larger plants. Numbers of pollen from certain trees could be from 2,000 to 12,500 millions of grains (whole tree).

3. Abundance of the plants—Obviously the greater the number of plants, the greater the total amount of pollen discharged.

4. Velocity of wind and time of day when velocity of wind is great—Pollination is heaviest in the early morning hours, which will produce more pollen discharge if the wind velocity is high at this time.

5. Sunshine—The amount of sunshine determines to a considerable extent the amount of pollen liberated from the pollen pods.

6. Relation of the date to the pollination period—As the pollination period continues, more plants come into pollination, more flowers open, etc.

7. Variation in temperature—This appears to have little effect on the transportation of pollens, other than in its relation to winds. However, low temperatures may delay and high temperatures hasten the growth and blossoming of plants. Early high temperatures may produce an earlier pollination season, particularly with tree and grass pollens. It does not affect the weed pollens nearly so much as they mature late in the summer. Unseasonably cool night temperatures may reduce the discharge of pollen, but when warmer weather returns, pollen production is resumed.

Frost is of importance in terminating the ragweed season in some northern states. However, in most of the ragweed areas, the pollination season is over several weeks before frost.

Pollination may be thought of as a tremendously wasteful process. So much pollen is given off by such trees as pines, firs, hemlocks, and spruces as to be seen floating like a cloud above the forests. Wind pollinated plants are characterized by flowers of simple structure. Such flowers are not showy, do not produce nectar, are not scented, and are of little or no interest to insects. The pollen produced may be enormously

more than that from insect-pollinated plants, though this is not always true. Such pollen is dry, light, and powdery.

DISSEMINATION OF POLLEN

Although exact information concerning the extent of dissemination or transportation by wind is governed by so many factors as to be relatively impossible of exact analysis, there is considerable evidence to show that pollens may be transported for very great distances.

Erdtman [14] quotes several studies which have shown large numbers of pollen grains caught on slides on ships from 20 to 30 miles off shore. He also presents many examples of small numbers of pollen grains being found hundreds of miles from their probable source. He records a journey across the Atlantic Ocean in which he exposed slides and caught pollen grains in mid-ocean and throughout the trip, some of which had to travel at least 600 miles.

Similar studies [22] carried out in airplanes, show that local pollens are found up to at least 4,000 ft. above the earth. Other pollens blown from considerable distances were found up to 5,000 feet.

Oren C. Durham,[10] one of the leading allergists in the United States, declares: "Even the absence of ragweeds in a given region cannot be accepted as proof of the virtues of that region as an effective refuge from ragweed pollen, for we know that pollen may be blown in toxic amounts for hundreds of miles." Balyeat [3] is more conservative in his statement: "The actual location of a majority of plants is not such an important factor if they are within range of 3 or 4 miles of a city, for from this distance the pollen will be brought in by means of the wind. This will hold true for all plants with the exception of a few whose pollen is very heavy."

Without question, the farther from the source of pollen one removes oneself, the greater the reduction of pollen numbers is likely to be, other things being equal. The reduction of pollen numbers in the atmosphere in general must vary inversely as at least the square of the distance from the point of production and probably is reduced at a much faster rate. Much of the pollen discharged falls to the ground near the plant. Rising air currents and strong winds moving long distances may void such a mathematical treatment, by carrying pollen for long distances.

Two meteorological conditions may seriously affect the amount of pollen remaining in the air. These are:

1. Precipitation — The rainfall during the growing season will determine to a considerable degree, the extent of growth and the number of plants which in turn will affect the amount of pollen produced.

During the pollination season, rainfall may tend to wash pollens out of the air but not necessarily as much as might be anticipated. Sustained rains are required. Balyeat [3] correlated air pollen counts with rainfall, sunshine, and wind velocity in three large cities of the Midwest states. He states that a slow rain over a period of 2–3 days accompanied by cloudy weather will practically clear the air of pollen.

2(a) The velocity of wind—This determines to a major degree how much pollen gets into the air, how far it will be carried, and the amount coming in contact with the hay fever sufferer. Patients complain of symptoms much more bitterly on windy days. Other factors being equal, the number of pollen grains found on a slide will be in direct ratio to the wind velocity.

2(b) The direction of the wind—This is of great importance in determining the concentration of pollen in the air. If it blows from an area where hay fever plants are abundant, the amount may be high. Cities near oceans or large lakes which are favored by breezes off these bodies of water during much of the time will have lower pollen concentrations than other cities, not so favored.

MEASUREMENT OF POLLENS IN THE ATMOSPHERE

Any method of quantitative determination of pollen content of air must take into consideration the considerable pat-

tern of variation which will be encountered.

Pollen concentrations will vary from place to place and from hour to hour in a given location. The factors governing the discharge of pollen and its dissemination by wind are so many and so variable that the errors of sampling can easily produce seriously misleading results if they are not taken into consideration.

Methods of measuring pollen in air fall into two general groups: volumetric methods and so-called gravity methods. Wodehouse[33] describes the following volumetric methods:

1. Erdtman Air Filtration Method—A small vacuum cleaner with its filter bag replaced by a plaited filter paper supported on a metal frame. The device has a means of measuring the volume of the filtered air.

2. Wells Air Centrifuge—This consists essentially of two concave discs set face to face. Air drawn into the lens-shaped cavity between the discs is projected by the rapid whirling of the lower disc directly onto a celluloid foil supported by a collar surrounding the slit. The amount of air sampled by the instrument in a given time interval can be readily determined.

3. Continuous pollen measurements[19] have been made by an apparatus with a clock-work mechanism which moves a slide across a jet of metered air which impinges upon it through a slit. The fluctuations in pollen density are recorded and can be measured by microscopic counting.

Various gravity methods have been described in the literature. In general, they are variations of methods of exposing a petrolatum—or glycerine-jelly coated miscroscope slide, held horizontally, with a sheltering device to protect it from rain and from the fall of large particles of dust and soot. A committee of the American Academy of Allergy has proposed the standardization of pollen sampling techniques and has published a preliminary report.[12] The details of the proposed standard technique are given in full in Appendix B of this report.

The counting procedure in all cases is by means of a microscope, usually at a magnification of 100 times. In addition to counting the pollen grains, an attempt is also made to identify the species or family of the plant from which the pollen originated.

Training and experience is of major assistance in making this identification. Some help may be obtained from available books on the subject, such as Wodehouse's *Pollen Grains*[30] or his article "Atmospheric Pollen."[32] He advises that final identification be made by actual comparison with known material. For this purpose, a reference collection of mounted specimens of pollen is necessary. Methods of collecting and preserving herbarium specimens are given by Bailey[1] and by Swingle.[26] Wodehouse describes the method of collecting and mounting the pollen.[33]

It is only rarely possible to tell the exact species, but it is generally possible to determine the genus and, almost always, the family. The species can usually be judged with only minor errors, by a knowledge of which plants are flowering at the time the pollen is caught.

None of the gravity methods provide a reliable index to the absolute amount of pollen in the air nor can they be expected to show a high degree of correlation with the volumetric methods. Some authors[23] have assumed that the number of pollen grains falling on a unit area of a slide in a given time interval depends upon only two factors, the abundance of pollen grains in the air and their rate of fall. By use of Stokes's law, or by direct measurement more recently,[11] they have determined the velocity of fall. This permits them to make a calculation of the number of pollen grains per unit of air volume (usually expressed as number per cubic yard) from the number of pollen grains found on a unit of area of the slide.

In addition to the questionableness of the assumptions, the original paper

setting up a table of velocities of fall contained a serious error in its calculations,* which went unchallenged for many years during which time the table was used as a basis for volumetric calculations in many published pollen surveys.

However, in addition, other factors undoubtedly enter into the relation between gravity and volumetric measurements to confound the person attempting to make such transfer calculations. These include:

1. The shape and sculpturing of the pollen grains.
2. The variability of the specific gravity of the grains, of the air temperature and of the humidity.
3. The velocity of the wind and the direction in which it impinges on the coated microscope slide.

It is generally accepted now [6, 12] that reports of gravity samples should include a record of the amount of pollen per unit of area of the exposed slide whether volumetric data are calculated or not.

Some effort has been made to determine the threshold concentration of pollens, i.e., the number per unit volume of air required to produce symptoms of pollinosis.

Feinberg and Steinberg,[15] in correlating their pollen counts with hay fever symptoms, using Scheppegrell's formula, found that their counts indicated that 25 grains of ragweed pollen per cu. yd. was sufficient to produce symptoms. However if a correction is made for Scheppegrell's error and an allowance for the spicules on the ragweed pollen grains, the number should be 196 grains per cu. yd. or about 3,920 inhaled per day (assuming that the individual engaged in average activity inhales about 20 cu. yd. of air per day).

A concentration less than this, states Durham [9] "can hardly be regarded as a severe hazard for the average ragweed-sensitive person."

Gottlieb and Urbach [17] state more recently on this question, "There is no present method of determining the clinically significant concentration of pollen." They point out that individuals vary greatly in degree of sensitivity.

A considerable amount of information regarding the amount of pollen to be expected in the atmosphere of any particular locality can be gathered:

1. By securing the information given in the very numerous published surveys of hay fever plants. Most areas are covered by such published material, particularly as to the more common hay fever producing plants. Such surveys usually give the names of the plants, the time of flowering and some indication of the amounts of each different kind of pollen which can be expected in the air. Supplementary information can usually be obtained from the curator of local or nearby botanical collections.

2. By a field survey. In order to bring the published information up to date, to apply it to a particular locality or to test its reliability, it is usually desirable to make a field survey of possible hay fever plants. Such surveys need to be sufficiently comprehensive so that representativeness is assured. This survey also provides an opportunity of collecting samples of various pollens for purposes of identification of air-borne samples. Field surveys should be closely coördinated with air sampling.

There has now been accumulated a large number of published surveys, which give the distribution and pollination times of hay fever producing plants in various localities and regions of the United States.

Wodehouse lists a large number of them in his book, *Hayfever Plants*.[33] Gottlieb and Urbach [16] have also listed a large bibliography, classifying the areas covered, by individual states. These latter authors [17] have discussed the deficiencies of some field surveys, pointing out that plants should be identified by scientific rather than common names to avoid confusion; pollination dates should be given exactly rather than

* The diameter rather than the radius of the pollen grains was used in the Stokes's law substitutions.

roughly by months; and that surveys need to be carefully done, particularly as to representativeness. Otherwise errors of sampling will invalidate the results.

One of the outstanding surveys of national scope has been that pursued by Durham.[8] With commercial assistance and with the coöperation of the weather bureaus of the United States, Canada, and Mexico, he has organized extensive studies of atmospheric pollen counts in many cities of various parts of North America. These studies were limited to late summer and fall seasons. Two tables of pollen counts in these various cities as compiled from those studies are given in Appendixes C and D at the end of this report. One illustrates the relation of ragweed pollen counts to airborne concentrations of other pollens. The other gives data on variation, seasonal length, and total ragweed counts. Both tables are given in count of pollen per 1.8 sq. cm. The samples were collected by various observers using the gravity method, and were counted by Durham.

Dr. Harry S. Bernton,[8] in discussing a similar tabulation of pollen counts, points out that because some cities have more pollen than others at a given time, does not signify that residents of those cities suffer in proportion. He brought out that there is a minimal requirement of pollen for intoxication and all in excess of this does not influence the disease proportionately.

It has become customary in many large cities for local newspapers to publish daily pollen counts, made by private laboratories or allergists. With standardization of counting and greater interest in the subject, health officials may well give consideration to promoting an official daily pollen count. This could be based on representative sampling made either by the local weather bureau, by the local public health laboratory, or by some other suitable official agency. Such a record will be very valuable in measuring the long-term effect of a pollen control program, in addition to its obvious diagnostic aid to the physician.

CONTROL OF AIR-BORNE POLLENS

The prevention or control of pollinosis falls into several categories:

I. Action by the individual to reduce severity of symptoms—

a. Avoidance of undue exposure to pollens by allergic or potentially-allergic individuals.
b. Avoidance of foods which aggravate the sufferer's symptoms.
c. Avoiding excessive physical activity, fumes, dusts, and chilling of the body.

II. Preventive or immunizing treatment of allergic individuals—This includes sensitivity tests to determine the pollen or pollens which cause the hay fever and the correlation of beginning and duration of symptoms with atmospheric concentrations of pollens. This may be followed by:

a. Pre-seasonal treatment by gradually increasing parenteral injections of specific pollen extract.
b. Similar treatment given during the hay fever season.
c. Injections given at regular intervals throughout the year.

Pollen extract treatments have been given for over 35 years and the outlook has changed from one of "utter hopelessness to optimism."[9] The recent development of group antigens is providing for highly successful treatment and greatly simplified diagnosis and treatment.[13]

III. "Hay fever-free areas"—Many sufferers for years have been seeking hay fever relief by migration to so-called hay fever resorts. As the "Chamber of Commerce" influence and commercial interests are closely tied into the promotion of such resorts, it may be said that their efficacy is hardly ever as good as claimed. Besides this, even if relief is

found at a particular resort, the hay fever returns, when the allergic person is compelled to stay at home. Running away from hay fever is also time consuming and may be expensive. Psychologically it is not good. Few of us relish a vacation if the time and the place are selected in advance for us.

IV. Removal of pollens from the air—Personal respirators and various types of filter-masks designed to remove pollen from the air breathed, have also been tried with little success. They are very little help to the highly sensitive individual or the one affected by other factors in addition to pollen—such as cold air or certain foods. Those persons with asthma usually are not helped in this way. On the whole, none of these devices can be effective as the mesh of the filter cannot be made fine enough to keep out pollen without producing a device which is unwieldy and uncomfortable. Also many persons would need goggles in addition because eye symptoms of hay fever are caused by pollen entering the eyes directly.

One of the simplest ways to avoid much pollen is to remain indoors. In rooms where air is comparatively still, pollen content of the air is much lower than on the outside. However, if windows or doors are opened while a breeze is blowing, or if a fan is used to circulate the air, the pollen count will be near that of the exterior air.

Filters to remove pollen from indoor air are very feasible and effective. In general, air filters, precipitators, or washers which are effective against the dust will also protect against pollens.[25] Hay fever sufferers find that considerable temporary relief can be obtained by providing for filtration of air for their bedrooms. They find similar relief in "air-conditioned" buildings if the air-conditioning includes effective dust removal.

Unfortunately, the symptoms of hay fever reoccur when the allergic person returns to a pollen-laden atmosphere, and there are few persons who can remain in an air-conditioned atmosphere for any considerable portion of the hay fever season.

V. Theoretically, by preventing the discharge of pollen into the air, its effects could be avoided—Elimination of the plants which produce the offending pollens would accomplish this. Obviously, this is impractical for the tree pollens, and it is highly unlikely that any effective effort along this line can be carried out on the grasses, inasmuch as they form some of our most important agricultural crops.

The idea of elimination of the weed-produced pollen by destroying the weed plants has enjoyed a much wider support and it is undergoing a revival of interest now. Its appeal is primarily because most hay fevers are caused by weeds and also because weeds are otherwise highly objectionable.

Weeds have been defined as undesirable plants or just "plants in the wrong place." Weeds in the rural areas are likely to be costly hazards to crops and in some respects to cattle, as well as unsightly. In urban areas, they produce traffic hazards, fire hazards, and tell a tale of neglect and disregard of neatness and good municipal housekeeping.

In the past, municipal authorities have made heroic efforts, through legislation, enforcement, education, and direct weed removal service to suppress weed growth. These have taken the following lines:

1. Cutting of weeds before they reached a certain height.
2. Grubbing out or pulling weeds.

Attempts to enforce city laws requiring the property owner to cut or pull weeds have been very costly and relatively ineffective. Property owners could not be located and many could not be induced to do the work in time to prevent pollination or reseeding. Where the

work was done by the city and charged to the property owner, costly and delay-involving notification and hearing procedures are involved. Many cities still hold huge numbers of special tax liens for weed cutting which will never be collected because the property value now is less than the general taxes also due against it.

Centrally directed or municipal services of weed cutting or grubbing have been more successful in keeping weeds under control and to some extent in preventing reseeding, but have been very costly, need to be repeated frequently, and do not prevent pollination. The weeds grow back, pollinate and produce seeds in a few weeks' time. Also, where the soil is disturbed, the botanical progression of normal replacement of pioneer weeds, such as ragweed, by late-weeds is prevented.

Wodehouse [31] has advocated the planting of disturbed or denuded areas and intensive cultivation of all areas to prevent the ragweeds from taking over. He points out that city parks, properly kept gardens, well managed farms, and carefully planted roadside ditches and highway shoulders do not support hay fever weeds. As a long-term program, such activity will have many beneficial effects besides reducing the opportunities for ragweed growth.

Recently, there has been a revival of weed elimination enthusiasm. The cause has been the announcement in 1944 of a plant growth-regulating substance or hormone for use as an herbicide. At 10 p.p.m., more or less, plant hormones produce beneficial results. When this is increased to between 100 and 1,000 p.p.m., the new plant hormone, 2, 4-Dichlorophenoxyacetic acid (known more familiarly as 2, 4-D) stimulates abnormal growth which finally results in death of the plant. Under favorable conditions, 2, 4-D applied to foliage in the latter concentrations causes death of the entire deep root system. It is non-corrosive, non-irritating to the skin, non-explosive and apparently non-toxic to animals and man.

The action of 2, 4-D is highly selective. It attacks most broadleaf plants but there are exceptions. It does not affect most grasses. It appears to be most effective on young plants in periods of rapid growth; it acts slowly, requiring a month to produce killing action. It appears to be most effective when applied to plants growing in moist soil. The action progresses more rapidly in sun than in shade and its effectiveness is reduced when applied within 4 hours of a rain.

This is some of the knowledge gained of its general action.[20] Specifically, it has been investigated as to its effect on ragweed and related plants.[24]

Water sprays of 2, 4-D at 1,000 p.p.m. at sufficiently early stages of flower development were shown to be effective in preventing pollen shedding by ragweeds. If applied when the majority of plants had small racemes (flower stalks), by the 14th day, none of the involucres (covering of unexpanded flowers) had opened and no further flower development occurred. The plants, of course, did not produce seeds. By the 28th day, the tops of one-half of the smaller plants were dead and larger plants were dying back from the tips. Even when spraying was done as involucres were starting to open, no pollen was shed. Later spraying reduced pollen shedding but did not prevent it.

A number of city officials have experimented with the use of this compound as a weed killer. Many cities have started to use the material in more extensive programs. New York City organized an extensive ragweed control program starting in 1946, using 2, 4-D spraying. Details of this development can be found in the publication by Weinstein and Fletcher [29] which appeared in the *American Journal of Pub-*

lic Health and in the special report, prepared by Pincus, which is a part of Appendix A of this report.

Results of the New York City program as reported are: little or no new growth of ragweed in 1947 on areas sprayed in 1946, encouragement of growth of late-weeds and grasses where ragweed grew before, and possibly some effect on atmospheric ragweed pollen counts during the 1946 season. These were reported as "unusually low" that year. It is hoped that additional quantitative data on results will be forthcoming as this program and others continue.

LIKELIHOOD OF SUCCESS OF CONTROL PROGRAMS

There appears to be little doubt that hay fever sufferers are helped by the destruction or removal of hay fever plants within a few city blocks or a few hundred feet of them.

Up to this time, it has not been conclusively demonstrated that weed cutting or weed pulling, or chemical treatment to kill weeds, even if organized on a large scale, will lower appreciably the amount of pollen in the atmosphere of American cities. However, there now seems to be considerable evidence and good reason to believe that, under favorable geographical or meteorological conditions found in many communities, a well organized ragweed control program, using the herbicide 2, 4-D in addition to other measures such as seeding areas with competitive plants, will produce a large reduction of air-borne ragweed pollen, at a reasonable cost.

Such efforts are likely to be more successful where (1) the prevailing wind direction in the community is from areas relatively free of ragweed plants, or (2) the area that can be organized and controlled successfully is large. Just how large the control area must be, appears impossible to determine from presently available data. As more control programs are carried out along with atmospheric pollen counts, more data in this regard will become usable. It would appear that one need not be hopelessly pessimistic as to results, even though one[9] of the authorities in the field has declared as late as 1936, "The complete removal of every ragweed within the area of even our largest cities for a whole season could not measurably reduce the pollen contamination of the air in the business or residence portions of the city." The fact that more hay fever cases are found in suburban areas than in the central portions of the large cities,[33] and the definite evidence of considerable and steady reduction of pollen concentrations in air the farther one travels from its source would assure increasing reduction of pollen counts at the center, as the area of comparative freedom from ragweed is ever expanded.

Preliminary evidence now at hand indicates that the beneficial results of weed control, other than potential pollen reduction, will easily justify the effort and cost of centrally organized 2, 4-D spray programs, at least in the larger metropolitan centers. Any benefits accrued toward reducing the severity and prevalence of hay fever cases will thus be added gain, should they materialize. If the community is surrounded by areas of considerable ragweed, or if a prevailing wind carries ragweed into the area, no presently available control methods can be expected to bring about a reduction of air-borne ragweed pollens to concentrations below clinically significant amounts, except on days of low wind velocity or of winds of favorable direction.

In the special cases, where cities have large amounts of hay fever plants, while the surrounding area is relatively free of them, or where the prevailing winds are from such areas, the organized control of such plants by chemical treatment would seem to be very beneficial and, therefore, advisable.

In the rural areas where efforts over

large areas are much more difficult to organize, it appears that little success can be expected through the measures recently made available for air-borne pollen control. Probably this will be so until educational means have brought the advantages of and have motivated a high proportion of persons in such areas to carry on individual weed control.

ACKNOWLEDGMENT — Full credit for the preparation of this report belongs to John Buxell of this committee, who prepared the original text which has been reviewed and approved by the committee.

The assistance of Professor A. O. Dahl of the Botany Department, University of Minnesota, in guiding the preliminary consideration of this subject through its many ramifications is gratefully acknowledged.

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Appendix A

For the Report of the Committee on Air Pollution, Engineering Section, American Public Health Association, presented at the Association meeting held in Atlantic City, October, 1947, see *A.J.P.H.* June, 1948, pp. 761–769.

Appendix B

Pollen Counting

From the Preliminary Report of the National Pollen Survey Committee of the American Academy of Allergy on Proposed Standardization of Pollen Counting Techniques. J. Allergy 17:178–180 (May), 1946, by O. C. Durham, J. H. Black, J. Glaser, and M. Walzer.

1. *Essential equipment:*—

Standard sampling device.

Compound microscope (preferably binocular) with mechanical stage (preferably with graduated scales and verniers).

Glass slides, 25x75 mm. (1x3 inches), with frosted ends which may be marked with pencil thus rendering gummed labels unnecessary.

Cover glasses, 22x22 mm.

Wooden slide boxes with covers, large size (25 slides) for storing slides and small size (3 slides) for carrying slides to and from laboratory and exposure site.

Soft petrolatum jelly: 75% U.S.P. petrolatum, 25% U.S.P. mineral oil.

Dissecting needle.

Calberla's solution made up of 5 ml. of glycerin, 10 ml. of 95% alcohol, 15 ml. of distilled water and 2 drops of saturated aqueous solution of fuchsin. (Small tablets of basic fuchsin are prepared by Burroughs-Wellcome and Co.)

2. *Place and Time of Exposure*—The ideal location for the sampling apparatus is the center of an unobstructed roof of a tall, flat top building near the geographic center of a given community. The building chosen should not be immediately flanked by taller structures. If the roof is equipped with a parapet the top of the exposure apparatus should be 30 inches above the parapet. When for special reasons, sampling is carried on in an unusual location, a full description of the site and surroundings should be furnished. Porches and window ledges are not satisfactory sites for pollen sampling.

Slides should be exposed for periods of 24 hours, starting preferably in the morning at the same hour each day.

3. *Sampling Device*—The sampling apparatus approved and recommended as a standard by this committee, has been described and pictured in the *Journal of Allergy*, March, 1946, pages 80 and 81. Essentially it consists of two 9 inch, heavy polished, stainless steel disks set horizontally 3 inches apart and held with 3 struts. One inch above the center of the lower plane is a slide holder into which the slide fits snugly. The supporting rod of the apparatus, 30 inches long, rises from a tripod base equipped with holes so that it may be screwed to a solid platform. This apparatus may be ordered from Wilkens-Anderson Company, 111 North Canal Street, Chicago 6, Ill. (price $16.00), or it may be made according to the specification of the committee.

4. *Identification Technique*—Slides should be prepared with a very thin film of petrolatum jelly (rubbed out—not flowed on with heat). Preparation of slides should be carried out in a room free from air currents and dust particles.

Examination of slides and identification of allergenic particles may be carried out most effectively by staining with Calberla's solution. The larger dirt particles, soot and sand, should first be removed with a dissecting needle with the aid of a hand lens. A few drops of the stain are then placed directly on the slide. The amount used should be just sufficient to fill the space between the irregular oiled surface of the slide and the cover slip and will vary according to the quantity of debris on the slide. If the cover glass actually floats free, the excess stain may be removed with a blotter. The slide may usually be examined within 3 to 5 minutes after application of stain.

Identification and counting may be carried on without stain. Even when stain is used, only about half of the slide surface will be disturbed, leaving the remainder for observation of unstained granules.

The glycerin jelly method of slide preparation and counting as described by Wodehouse may be followed if preferred.

5. *Counting and Computation of Results*—For the sake of uniformity, it is advisable that counts be computed and recorded on the basis of the number of pollen grains (or spores) of each type or species found on 1 sq. cm. of

slide area. From this figure one may, if he so desires, estimate the pollen content per cubic yard of air by the use of conversion factors such as have been recommended by Durham and are now being studied by this Committee. For present purposes, however, a desirable degree of uniformity will be achieved by reporting all counts on the basis of 1 sq. cm. of slide area. Whether the 1 sq. cm. figures are supplemented by cubic yard estimates is optional with each observer.

For routine counting, low power should be used—usually a 10x objective with a 10x or 15x eyepiece. If no cover glass is used, a count is made of all pollen granules encountered in crossing the entire width of the slide (1 inch or 25 mm.). The slide is then shifted laterally and another complete crossing is made. This is repeated until 4 or more trips have been made.

The area covered on one trip across a slide depends on the actual width of the low-power field afforded by the optical combination which is being used. The width of field may be determined by reading the setting of the stage, shifting a given particle on the slide all the way from one side of the field to the other and reading again. The shift will amount to 1 mm., more or less. A number of trials should be made and the results should be averaged. If the field happens to be exactly 1 mm. then each trip across the slide will cover 25 sq. mm. Four trips will cover 1 sq. cm. If the cover-glass technique is used, the count is made across the width of the cover glass (22 mm.). If the optical field width is exactly 1 mm. each trip across the cover glass will cover 22 sq. mm. and 5 such counts will cover 110 sq. mm. or 1.1 sq. cm. From this figure, the count for the standard unit of 1 sq. cm. may be readily calculated. In the cover-glass technique, the whole area (4.84 sq. cm.) under the cover may be counted. Dividing by 4.84 gives the average number of pollen granules per sq. cm.

When there is little pollen in the air, the accuracy of the counts may be increased by counting several square cm. areas and reducing the total to the average per sq. cm.

When replacing shelters previously employed with the new standard instrument, workers are advised to run parallel counts using both shelters for one season in order to determine the equivalent values of the two instruments. With this information, one may convert readings taken in previous years to their equivalents with the new shelter. In this way, the value of accumulated data obtained by counts in previous years may be preserved.

Appendix C

Tabulation of the Summations of Daily Gravity Counts of Air-Borne Pollen in Certain Cities of North America, for Different Types of Plants, During the Late Summer and Fall Seasons (Condensed from Data Collected During 1933–1935) *

State	*City*	*Ragweed*	*Russ. This.*	*Chen. & Amar.*	*Grass*	*Sage*	*Comp.*	*Misc.*	*Total*
Ala.	Mobile	579	....	23	82	....	29	14	727
Ariz.	Phoenix	145	....	808	248	2	19	67	1,289
Ark.	Little Rock	2,245	....	70	82	....	7	119	2,523
Calif.	Los Angeles	144	....	102	50	8	2	82	388
	Sacramento	34	8	118	24	16	....	61	261
Colo.	Denver	1,949	1,083	880	87	515	33	49	4,596
D. C.	Washington	2,285	....	69	67	1	3	14	2,439
Fla.	Tampa	554	....	19	123	....	34	86	816
Ga.	Atlanta	3,053	....	57	69	5	27	25	3,236
Ida.	Boise	209	82	63	46	153	8	34	595
Ill.	Chicago	8,817	20	168	45	....	7	21	9,078
	Peoria	12,773	57	269	105	2	6	51	13,263
	Springfield	8,512	34	186	88	....	9	44	8,873
Ind.	Indianapolis	18,405	....	163	120	22	11	39	18,760
Kan.	Wichita	4,546	....	6,516	281	57	37	124	11,561
Ky.	Louisville	7,339	....	143	85	76	9	29	7,681
La.	New Orleans	3,183	....	50	128	....	329	24	3,714
Me.	Bar Harbor	426	....	3	5	....	8	2	444
	Eastport	280	....	8	12	....	5	22	327
Mass.	Boston	746	....	16	13	....	1	7	783
	Nantucket	952	....	16	44	....	2	33	1,037
Mich.	Alpena	1,124	....	130	14	8	5	8	1,289
	Detroit	8,174	....	119	22	2	5	9	8,331

* Data taken from *Your Hay Fever*, The Bobbs-Merrill Company, New York (1936) by Oren C. Durham. Abbreviations: Russ. This., Russian Thistle; Chen. & Amar., Miscellaneous Chenopod and Amaranth; Comp., Composite.

Appendix C (Cont.)

State	City	Ragweed	Russ. This.	Chen. & Amar.	Grass	Sage	Comp.	Misc.	Total
	Frankfort	4,801	....	1,148	56	....	62	48	6,115
	Isle Royal	133	....	16	1	....	1	5	156
	Marquette	993	....	100	8	14	9	15	1,139
	Petoskey	669	....	58	11	8	4	66	816
	St. Ignace	687	....	115	7	2	14	16	841
	Slt. Ste. Marie	197	....	16	3	1	5	3	225
Minn.	Duluth	2,476	....	158	24	12	26	26	2,722
	Minneapolis	9,077	102	314	62	37	7	45	9,644
	Moorhead	4,860	1,211	374	90	74	1	70	6,680
	Tower	253	25	36	4	2	15	12	347
Miss.	Biloxi	446	....	8	47	....	61	13	575
	Vicksburg	1,820	....	61	65	22	14	244	2,226
Mo.	Kansas City	7,708	68	601	85	4	7	97	8,570
	St. Louis	10,708	....	590	75	3	10	40	11,426
Mont.	Miles City	190	591	37	7	230	3	15	1,073
Neb.	North Platte	835	385	4,545	238	112	31	44	6,190
	Omaha	9,381	161	1,607	186	5	2	1,396	12,738
Nev.	Reno	12	150	33	40	45	19	72	374
N. H.	Bethlehem	262	....	11	34	....	20	9	336
N. J.	Atlantic City	1,692	....	45	25	....	4	10	1,776
N. Mex.	Roswell	350	219	122	278	56	25	39	1,089
N. Y.	Buffalo	11,069	....	66	21	6	16	30	11,208
	Lake Placid	206	....	10	10	1	24	26	277
	New York	1,575	....	184	93	....	8	20	1,880
N. C.	Asheville	4,070	....	58	63	20	10	26	4,247
	Hatteras	4,646	....	203	177	....	22	49	5,097
	Raleigh	1,715	....	33	51	3	3	14	1,819
Ohio	Cleveland	6,956	....	94	18	....	5	3	7,076
Okla.	Oklahoma City	5,395	....	2,333	362	58	66	132	8,346
Ore.	Portland	0	1	12	45	....	....	70	128
Pa.	Philadelphia	2,841	....	47	19	....	3	10	2,920
	Pittsburgh	4,652	....	29	10	....	11	10	4,712
R. I.	Block Island	1,490	....	14	17	....	8	30	1,559
S. C.	Charleston	670	....	50	85	....	6	13	824
S. Dak.	Pierre	1,199	511	488	78	243	8	82	2,609
Tenn.	Knoxville	3,893	....	46	62	14	9	10	4,034
	Memphis	5,219	....	139	119	69	17	224	5,787
Tex.	Amarillo	170	296	264	135	43	5	29	942
	Brownsville	1,222	....	265	300	10	81	517	2,395
	Corpus Christi	2,327	....	126	66	....	9	50	2,578
	Dallas	6,424	....	749	91	3	60	933	8,260
	Galveston	3,012	....	23	38	....	9	40	3,122
	Houston	7,255	....	27	96	....	25	102	7,505
Utah	Salt Lake City	282	310	239	23	123	11	46	1,034
Wash.	Spokane	8	68	77	31	21	4	42	251
Wisc.	Eagle River	718	....	75	6	7	12	12	830
	Madison	24,889	10	413	143	56	41	36	25,588
	Milwaukee	6,112	....	105	29	4	7	13	6,270
Wyo.	Lander	1,333	122	251	202	965	9	141	3,023
Canada:									
Ont.	Cochrane	114	....	13	14	....	5	31	177
Que.	Father Point	96	....	30	23	10	10	98	267
	Montreal	899	....	9	7	....	2	8	925
Ont.	Ottawa	583	....	72	23	....	28	16	722
	Parry Sound	456	....	25	11	1	16	8	517
	Port Arthur	355	8	28	26	5	2	54	478
	Toronto	1,534	....	17	16	....	....	10	1,577
Manit.	Winnepeg	507	177	107	11	18	13	19	852
Mexico:									
	Mexico City	34	....	40	97	1	19	121	312
	Tampico	279	....	14	85	1	148	100	627

Appendix D

Tabulation of Daily Gravity Counts of Air-Borne Ragweed Pollen in Certain Cities of North America, by Regions *

Region and Place	*Year or Years*	*Ragweed Pollen Counts in Numbers of Grains per 1.8 sq. cm. Area*		
		Days Above 25	*Maximum Count*	*Total Season's Count*
Pacific Northwest				
Portland, Ore.	1933	0	0	0
Seattle, Wash.	1929	0	0	0
Spokane, Wash.	1933	0	2	8
Boise, Idaho	1929, 1933	3	50	270
Southwest				
Los Angeles, Calif.	1929, 1933	0	14	88
Phoenix, Ariz.	1933	0	17	145
El Paso, Tex.	1929	0	9	110
Great Lakes Area				
Duluth, Minn.	1934–1935	29	250	2,476
Tower, Minn.	1934–1935	4	46	253
Eagle River, Wisc.	1934–1935	8	140	718
Plum Island, Wisc.	1935	22	434	2,679
Milwaukee, Wisc.	1931–1933	30	1,485	6,561
Chicago, Ill.	1929–1935	32	1,006	6,351
Detroit, Mich.	1930–1933	30	1,232	4,913
Frankfort, Mich.	1934–1935	32	720	4,801
Petoskey, Mich.	1934–1935	8	118	669
St. Ignace, Mich.	1934–1935	8	168	687
Sault Ste. Marie, Mich.	1935	5	39	197
Alpena, Mich.	1935	13	192	1,124
Marquette, Mich.	1934–1935	13	286	993
Isle Royal, Mich.	1934	1	48	133
Port Arthur, Ont.	1931–1933	4	134	312
Cleveland, Ohio	1929–1934	29	1,270	5,318
Toronto, Ont.	1930–1933	14	231	1,251
Buffalo, N. Y.	1929–1933	35	2,000	8,992
Parry Sound, Ont.	1934–1935	5	101	456
Canada (Other than above)				
Prince Albert, Sask.	1930	0	5	6
Winnepeg, Manit.	1930–1933	4	252	374
Cochrane, Ont.	1934–1935	1	38	114
Ottawa, Ont.	1931–1933	7	81	542
Montreal, Que.	1930–1933	10	132	744
Father Point, Que.	1934–1935	0	21	96
Upper New York and New England				
Lake Placid, N. Y.	1934–1935	5	59	206
Saranac Lake, N. Y.	1935	3	46	350
Bethlehem, N. H.	1934–1935	3	48	262
Rangeley Lakes, Me.	1934–1935	1	69	139
Eastern Seaboard				
Eastport, Me.	1935	4	43	280
Bar Harbor, Me.	1934–1935	5	76	426
Boston, Mass.	1929–1933	10	140	790
Nantucket, Mass.	1934–1935	12	309	951
Block Island, R. I.	1934–1935	20	336	1,490
New York City, N. Y.	1929–1935	20	254	1,575
Atlantic City, N. J.	1934–1935	18	391	1,692
Hatteras, N. C.	1934–1935	41	650	4,646
Southeastern Seaboard				
Charleston, S. C.	1931–1933	7	107	571
Jacksonville, Fla.	1930	0	20	205
Miami, Fla.	1929	0	3	8
Southern Appalachians				
Asheville, N. C.	1934–1935	31	630	4,070
Gulf Coast				
Tampa, Fla.	1933–1935	5	47	563
Mobile, Ala.	1931–1933	4	170	461
Biloxi, Miss.	1934	4	40	446
New Orleans, La.	1929–1933	20	295	2,157
Houston, Tex.	1930–1933	28	1,025	5,961
Galveston, Tex.	1934–1935	14	666	3,012
Corpus Christi, Tex.	1934	15	381	2,327
Brownsville, Tex.	1931–1933	20	375	1,980
Tampico, Mexico	1932	2	56	279

* Data taken from *Your Hay Fever*. The Bobbs-Merrill Company, New York (1936) by Oren C. Durham

Municipal Public Health Engineering*

Engineering Section

MUNICIPAL public health engineers need a combination of technical engineering skill and administrative ability. The technical functions are broad in scope and may cover practically all aspects of sanitation programs. In the field of sanitary engineering, private water supplies and sewage disposal installations are usually a direct responsibility. In a large number of jurisdictions the state has delegated certain responsibilities for control of public water supplies, sewerage and sewage disposal to local health officers whose staffs include public health engineers. Such delegation may include preliminary review of plans, desirable because of municipal public health engineers' knowledge of local conditions.

In coöperation with the state, supervision of chlorination, bacteriological sampling of water supplies, and control of cross-connections are local functions. Regulation and promotion of sanitary land-fills and improved general municipal waste collection and disposal directly affect rodent and insect control programs and are important responsibilities of local public health engineers.

Municipal public health engineers are directly concerned with the engineering aspects of design and installation of milk and food equipment. Since most sanitary control is based on engineering principles they must have broad technical interests.

Much basic information in these technical fields is already available. The research programs of the U. S. Public Health Service, the universities, and others are constantly adding to this knowledge. The National Sanitation Foundation program of research, combined with providing means for public health and industry to meet and arrive at mutually agreeable recommendations, is stimulating this important work.

In the field of sanitation administrative practice similar knowledge is not available. The committee reported last year on the work of its "other entity as the committee on Engineering Administrative Practice of the Conference of Municipal Public Health Engineers." It was stated that some of the fundamental administrative questions cannot be answered until comprehensive full-time studies are completed.

Among those fundamental questions are:

1. What should be the educational qualifications for sanitarians in local departments?
2. What specially trained technician services should be available to the administrator of the sanitation program?
3. What functions should be included in a well rounded health department sanitation program?
4. Under what circumstances should inspections and investigations be made?
5. How frequently should routine inspections be made in food, housing, milk, rodent control, and other programs?

Analysis of these and related factors will lead to fundamental criteria for determining the number and type of personnel needed for an adequate sanitation program.

A foundation is being laid for obtain-

* Report of the Chairman.
COMMITTEE ON MUNICIPAL PUBLIC HEALTH ENGINEERING.
Organized 1933. Published Reports: *Year Books* 1934–1935, 1935–1936, 1938–1939, 1940–1941. *A.J.P.H.*, July, 1947. *Year Books*, 1947–1948.

ing answers to many of these questions by the work of William T. Ingram, Director of the Engineering Section Project. "The project proposed the exploration of problems related to sanitary and public health engineering with a view toward:

"1. The provision of adequate numbers of sanitation personnel to meet the demands of good sanitation service.

"2. The utilization of engineers and other sanitation personnel in positions of responsibility more useful to the health officer.

"3. The development of sanitary engineering and public health engineering as a professional career worthy of consideration by young men now acquiring college and university training.

"4. The stimulation of expanded undergraduate and graduate training programs needed to prepare the student for his professional rôle in sanitation services.

"5. The improvement and broadening of sanitation services to insure adequate consideration of state and community requirements for a safe potable water supply; a safe and sanitary means of treatment and disposal of sewage, garbage, refuse, and industrial waste; a food and milk supply meeting standards of sanitation; a satisfactory living, working and recreational environment including housing, industrial sanitation, community air hygiene, swimming pool sanitation and other activities necessary to the promotion of the health, welfare, safety, and comfort of the individual."

One of the several accomplishments of the project is aimed at filling an important gap in our administrative knowledge by "field trials and assistance in publication and distribution of a *Sanitation Evaluation Schedule* for experimental use in the study and appraisal of community sanitation programs. (More than 800 copies of the schedule have been distributed to universities and state and local health departments.)"

The committee strongly urges that every effort be made to continue the Engineering Section Project.

In analyzing the administrative responsibilities of the municipal public health engineer the committee recognizes certain fundamental relationships. The program must be an integral part of the entire local health program. In those fields where the state has legal responsibilities the local policies must conform to those of the state. By coöperative teamwork mutual confidences develop to promote those harmonious relationships essential to successful programs.

The Engineering Section provides the important link between municipal public health engineers, health officers, state sanitation administrators and educators in the field of sanitation. Again, teamwork must be continued and expanded.

The Association's Committee on Administrative Practice, through its reports and recommendations, plays an important rôle in determining local administrative policies. The Engineering Section should have available sufficient data to assist and participate in developing formulae for sanitation administration.

Efficient administrators must decide which jobs require special knowledge and training. When a program requires the technical services of veterinarians, entomologists, biologists, food technologists, and other specialists, the public health engineering administrator must recognize the need and seek to supply those services.

Vitally needed for efficient administration is a basic method for determining the required or desirable members and types of sanitation personnel. It is urged that until such figures are available the Association refrain from recommending numbers of sanitation personnel per unit of population. Actual work measurements in 9 urban and semi-rural districts with from 70,000 to 300,000 population showed a variation of 300 per cent in district sanitarians required per unit of population.

The study indicated an overall sanitation personnel requirement of one per 6,500 population. This marked variation from other published figures such as one sanitation worker per 20,000 or 25,000 indicates the urgency of work load studies.

Health officers as well as municipal public health engineers are frequent targets of public criticism because of inadequate sanitation programs. Disgraceful housing conditions, filthy restaurants, hordes of rats, and excessive numbers of citizen complaints are largely due to grossly inadequate numbers of sanitation employees.

Another important factor is an efficient administrative program. The Committee on Administrative Practice of the Conference of Municipal Public Health Engineers has recognized the need for administrative studies. Six subcommittee reports were presented at the annual meeting covering the administrative procedures for regulating or handling:

Circuses, Carnivals and Tent Shows
Construction of Private Sewage Disposal Systems
Cross-Connections
Nuisance Complaints
Construction of New Bakeries
Adult Convalescent, Nursing and Rest Homes

Included were relationships with other local departments, procedures for reducing inconvenience to the applicants, and methods for generally improving efficiency.

In view of the interest shown and the agreed need, this type of study will be continued and expanded. A research project has been approved by the Research Grants Division of the U. S. Public Health Service to furnish answers to most of these problems. This will be done under the Association's Engineering Section Project.

Recognizing the need for continued improvement in the administration and execution of local sanitation responsibilities the committee recommends:

1. Adequate training and recruitment of sanitation personnel should be stimulated by supporting such programs as:
   a. The Engineering Section Project
   b. The training programs of the U. S. Public Health Service and the Kellogg Foundation
   c. Well organized state and local threshold and inservice training programs
   d. Programs of colleges and universities adequately staffed and equipped for sanitation training
2. Recognition of the place of technical specialists and trained sanitarians in administration and execution of sanitation programs by:
   a. Continuing the liaison between the Engineering Section and all related groups as started by the Policy Advisory Committee
   b. Continuation of the expansion of interests of the Section and Section programs to include all phases of environmental sanitation
3. Encouraging adoption of uniform codes and participation with industries in development of improved sanitary construction, operation and maintenance by:
   a. Standard ordinances proposed by the U. S. Public Health Service
   b. The program of the National Sanitation Foundation
4. Continued development and improvement of sound administrative programs and practices leading toward:
   a. Better means for determining and "selling" adequate numbers of sanitation personnel
   b. Coördination of programs with the health officers, the medical, nursing, and health education programs, and the state and other related official and nonofficial agencies
   c. Improved general administrative procedures.

CHARLES L. SENN, City Health Department, Los Angeles, Calif., *Chairman*
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Rural Sanitation*

Engineering Section

THE committee was first formed by action of the Engineering Section Council in February, 1947. The committee activities were expanded by the Section Council in October, 1948.

PURPOSE OF THE COMMITTEE

As amended in 1948, the objectives of the committee are now:

1. To gather factual information concerning rural water supply and rural sewage disposal practice in the United States.
2. To gather factual information concerning the status of progress on research in the design of rural water supply and sewage disposal systems.
3. To establish, if possible, standards of design acceptable to all federal, state, and local interests based on objective research and field information.
4. To coöperate in every way with federal, state, and local agencies charged with responsibilities for planning and approval of home water supply and sewage disposal systems.

NEW INFORMATION REPORTED IN 1948 ON HOME SEWAGE DISPOSAL

A. *U. S. Public Health Service Research*

The research project on sewage disposal sponsored by the National Housing Agency and the Public Health Service has developed considerable data in the last year. The work program was outlined in the 1947 report of this committee (see *Year Book 1947–1948*). The data had not been cleared by the sponsoring agencies in October, 1948, but should be released soon.

B. *Individual State F.H.A. Sewage Disposal Requirements*

The F.H.A. has added four to the list of states for which printed F.H.A. requirements are available. These are: Alabama, Georgia, New Hampshire, Wyoming. (See 1947 report for list of other states.)

C. *Engineering Section Committee on Rural Sanitation*

This committee has made a comparison of the recommendations for home sewage disposal in the several states and those of the Joint Committee. Information concerning the practice in 45 states is appended to this report.

The capacity for single tanks or the first compartment of double tanks varies from 300 gallons to 735 gallons. Thirty-two states recommended the same capacity as the Joint Committee recommends—500 gallons. Seven recommend less and 6 recommend more than that minimum.

The maximum number of persons allowed to use the minimum size tank ranges from 2 to 15. Only 1 state has a minimum below that of 4 persons recommended by the Joint Committee. Four states have the same recommendations and 29 are known to allow greater numbers to use their minimum size tank.

The tank dimensions mentioned by the Joint Committee are:

Length	72″
Width	36″
Water Depth	48″

Twenty-two states recommend the same length, 21 the same width, and 28 the same water depth.

The smallest minimum dimensions mentioned by the several reporting states are:

Length	54″
Width	24″
Water Depth	38″

* Progress Report.
COMMITTEE ON RURAL SANITATION.
Organized 1947. Published Report: *Year Book*, 1947–1948.

The corresponding higher minimum limits reported were:

Length	84″
Width	48″
Water Depth	60″

Four report less length, 4 less width, and 2 less water depth, while 1 reports more length, 2 more width, and 3 more water depth. Detailed length and width were not reported by 14 states and four establish the dimensions on the basis of each problem.

The Joint Committee suggests that either one or two compartments are allowable and 8 states agree. However, 23 recommend one compartment only and 5 recommend two compartments. Two have no specific recommendations and 7 did not report on this item.

There is a great variation in the minimum area of trench required for efficient disposal in sandy soil. The figures vary from 60 sq. ft. in 2 states to 666 sq. ft. in another state. Twelve follow that recommended by the Joint Committee—150 sq. ft.—but 11 report a lower minimum, and 10 report a higher minimum.

Minimum length of trench varies from 30′ to 525′ and minimum bottom widths vary from 12″ to 24″. The Joint Committee recommendation of 100′ length and 18″ bottom width is followed by 12 states for length and 15 states for bottom width. Eight states report less and 14 report more minimum length. Twelve states report less and 6 report more bottom width. Five states determine these dimensions and the total area on the base of percolation tests and have not specified a minimum length.

Cesspools as a means of disposal are not approved by either the Joint Committee or 24 states. Twelve approve cesspools for certain conditions, and 8 make specific recommendations on the basis of the problem.

Grease traps are not required in 20 states nor by the Joint Committee report. Four states do require them, and 6 states consider them optional. Thirteen states gave no information concerning this practice.

The several comparisons are detailed in Table 1.

It appears that several of the states may maintain dual standards; i.e., those recommended generally and those for use in connection with F.H.A. home loan approval. Further study is needed before a quantitative statement can be made.

It also appears that at least 14 of the states lack legal authority to enforce compliance with home sewage disposal standards.

D. *Definitions re Rural Sewage Disposal*

This committee for purposes of its work has adopted the following definitions. The committee will be glad to receive and consider any proposed modification of these definitions or a statement of definitions which the committee should seek to establish by clearance with all interested agencies.

1. Home sewage is the liquid waste from individual dwelling units.
2. A cesspool is an excavation which receives raw sewage from the home including kitchen and laundry waste.
3. A seepage pit is an excavation which receives effluent from a home sewage treatment process.
4. A dry well is a covered pit with open-jointed lining through which drainage from roofs, basement floors, or areaways may seep or leach into the surrounding porous soil.

E. *Research on Problems of Rural Sewage Disposal*

Information has been reviewed on the following research:

1. *University of Michigan, Ann Arbor—Prof. Earnest Boyce*

This study involves the operation under parallel conditions of a number of commercial septic tank systems as well as tanks designed and built in con-

TABLE 1

Comparison of State Practice with the Recommendations of the Joint Committee on Rural Sanitation for Individual Sewage Disposal Systems, 42 States Reporting

Septic Tank Size and Capacity, 1st Compartment or Single Compartment Tank Rectangular

Capacity		Persons		Length Inches		Width Inches		Water Depth Inches		Compartments Allowed	
Gallons	No. States	Max. No.	State Rec.	Min.	State Rec.	Min.	State Rec.	Min.	State Rec.	No.	State Rec.
500	J.C.R.	4	J.C.R.	72	J.C.R.	36	J.C.R.	48	J.C.R.	1 or 2	J.C.R.
300	3	2	1	54	1	24	1	35	1	1 only	23
320	1	4	4	60	1	30	2	45	1	2 req.	5
350	1	5	6	66	2	33	1	48	28	1 or 2	8
400	1	6	11	72	22	36	21	54	1	N.S.	2
450	1	7	3	84	1	42	1	60	2	Unk.	7
500	32	8	4	N.S.	4	48	1	N.S.	4		
540	2	9	1	Unk.	14	N.S.	4	Unk.	8		
630	1	10	3			Unk.	14				
720	1	15	1								
735	1	N.S.	3								
N.S.	1	Unk.	8								

Effluent Disposal								Pre-Treatment	
Drainage Field						Cesspools		Greasetraps	
Equiv. Trench Area Min. Sq. Ft.	State Rec.	Bottom Width of Trench Min. Inches	State Rec.	Length Trench Sandy Soil Min. Ft.	State Rec.	Recom.	State Rec.	Recom.	State Rec.
150	J.C.R.	18	J.C.R.	100	J.C.R.	Not Approved	J.C.R.	Not Required	J.C.R.
60	2	12	9	30	1	Approved	11	Required	4
75	1	13	1	40	1	Not Approved	24	Not Required	20
85	1	15	2	50	1	Apr. Eff. Only	1	Optional	6
100	1	18	15	70	1	N.S.	8	N.S.	2
105	1	24	6	75	2	Unk.	1	Unk.	13
120	3	N.S.	5	85	2				
128	1	Unk.	7	100	12				
138	1			120	4				
150	12			125	1				
160	2			150	3				
180	1			160	2				
188	1			200	3				
200	3			525	1				
300	1			PTR	5				
400	1			N.S.	4				
666	1			Unk.	2				
N.S.	5								
Unk.	7								

N.S. = Not Specified in General Recommendations.
Unk. = Unknown.
J.C.R. = Recommendations of U.S.P.H.S. Joint Committee on Rural Sanitation Reports.
P.T.R. = Percolation Test Required for Determining Figure.

formance with the recommendations of several governmental agencies and modifications thereof. In addition a group of actual residential septic tank systems will be studied and operated under supervision and laboratory control.

The tanks to be operated in parallel will receive sewage from the separate sanitary sewer system of Ann Arbor.

2. *Rensselaer Polytechnic Institute, Troy, N. Y.—Prof. E. J. Kilcawley*

This project involves a study of the capacity of soils for subsurface disposal of settled sewage.

3. *University of Illinois, Urbana—Prof. H. E. Babbitt*

This study is designated as "The In-

TABLE 2

Comparison of Home Sewage Disposal Design Data of Joint Committee Report With Practice Reported by 45 States

	Legal Auth.	*Tank*						*Drain Field*				
	Auth. to Enforce Compliance with Rec.	*Minimum Tank Capacity Gallons, 1st Compartment*	*Maximum No. Persons*	*Minimum Length (Inches)*	*Minimum Width (Inches)*	*Minimum Depth (Inches)*	*Compartments No.*	*Minimum area Tile Field (Square Feet)*	*Minimum Length Sandy Soil (Feet)*	*Minimum Trench Width Bottom (Inches)*	*Cesspools Approved*	*Grease Trap Required*
J.C.R.		*500*	*4*	*72*	*36*	*48*	*1–2*	*150*	*100*	*18*	*No*	*No*
States Reporting												
Alabama	DL	320	10	54	36	38	2	188	150	15	No	No
Arizona	Yes	300	2	60	24	48	2	150	100	18	Yes	No
Arkansas	Yes	500	6	?	?	48	1–2	150	100	18	No	?
California	DL	540	5	72	36	48	2	NS	NS	NS	NS	NS
Colorado	No	500	?	?	?	?	?	?	?	?	?	?
Connecticut	Local	500	5	72	36	45	1	85	85	12	No *	Opt.
Delaware	No	500	5	NS	NS	NS	1	NS	NS	NS	No	Opt.
District of Columbia	*No Report*											
Florida	DL	500	4	72	36	48	1	75	75	12	No	No
Georgia	DL	500	9	72	36	48	1	200	200	12	No	No
Idaho	No	500	6	72	36	48	1	150	100	18	Not Gen.	No
Illinois	DL	540	7	72	36	48	1	200	200	18	Not Gen.	No
Indiana	DL	500	NS	66	36	48	1	138	125	13	No	No
Iowa	DL	350	7	?	?	?	1–2	105	70	18	No	Opt.
Kansas	No	500	?	?	?	?	?	?	PTR	?	?	?
Kentucky	Yes	500	6	?	?	48	1–2	150	100	18	Yes	?
Louisiana	Yes	500	6	?	?	48	1–2	150	100	18	No	?
Maine	DL	400	4	NS	NS	NS	1	100	50	24	No	Yes
Maryland	DL	735	15	84	42	48	2	666	525	15	Yes	No
Massachusetts	DL	300	?	NS	NS	NS	NS	NS	NS	NS	Yes	Adv.
Michigan	DL	500	8	66–70	33–34	54–48	1	150	150	12	No	No Rec.
Minnesota	DL	500	5	72	36	60	1–2	60	30	24	No	Opt.
Mississippi	Yes	500	6	?	?	48	1–2	150	100	18	No	?
Missouri	Yes	500	6	?	?	48	1	150	100	18	No	?
Montana	*No Report*											
Nebraska	No	500	?	?	?	?	?	?	PTR	?	?	?
Nevada	Yes	500	4	72	36	48	1	150	75	24	Yes	No
New Hampshire	No	500	8	72	36	48	1	120	120	12	For Eff.	Not Nec.
New Jersey	No	720	8	72	48	48	1	160	160	12	Yes	Recom.
New Mexico	No	500	?	?	?	?	?	?	PTR	?	?	?
New York	DL	500	6	72	36	48	1	120	120	12	Yes	No
North Carolina	DL	630	6	72	36	48	2	180	120	18	No	No
North Dakota	DL	500	5	72	36	48	1	60	40	18	No	Recom.
Ohio	DL	500	NS	72	36	60	1	NS	100	NS	No	Adv.
Oklahoma	No	500	?	?	?	?	?	?	PTR	?	?	?
Oregon	Yes	500	6	72	36	48	1	150	100	18	Yes	No
Pennsylvania	No	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Rhode Island	No.	500	8	72	36	48	1	160	160	12	Yes	Opt.
South Carolina	DL	500	10	72	36	48	1	150	100	18	No	No
South Dakota	*No Report*											
Tennessee	Yes	500	6	?	?	48	1–2	300	150	24	No	?
Texas	No	300	?	?	?	?	?	?	PTR	?	?	?
Utah	No	500	7	72	36	48	1	200	100	24	Not Gen.	No
Vermont	DL	500	5	72	36	48	1	128	85	18	Yes	No Rec.
Virginia	DL	450	4	72	30	48	1–2	400	200	24	No	No
Washington	Yes	500	6	72	36	48	1	150	100	18	Yes	No
West Virginia	DL	500	10	72	30	54	1	120	120	12	No	No
Wisconsin	*No Report*											
Wyoming	No	500	?	?	?	?	?	?	?	?	?	?

* = Usual.
DL = Data Lacking or Incomplete.
? = Information not known.
NS = Not Specified in General Recommendations.
PTR = Percolation Test Required for Determining Figure.

vestigation of Small Septic Tanks." The university has entered into an agreement with a manufacturer of commercial tanks for the purpose of testing five tanks and determining which of three new designs is best. The work has been in progress for about one year.

4. *Purdue University, West Lafayette, Ind.—Prof. D. E. Bloodgood*

This involves a study of the development of a household incinerator for garbage and sewage.

5. *Conference of Municipal Public Health Engineers, Committee on Administrative Practice—W. H. Cary, Jr., Chairman*

This committee is studying the administrative procedures used in processing the construction and installation of new septic tanks. Reports have been received from ten local health departments in 1948. All replies lead to the tentative conclusion that public health engineering activities in local health departments should include some control of new septic tank installations. Further data are needed to confirm this conclusion.

INFORMATION ON RURAL WATER SUPPLY, 1948

A. *Joint Committee on Rural Sanitation*

The Joint Committee has published a companion to U.S.P.H.S. *Reprint 2461,* "Individual Sewage Disposal Systems." It is "Rural Water-Supply Sanitation," published as *Supplement 185* to the *Public Health Reports* of the U.S.P.H.S.

B. *Engineering Section Committee on Rural Sanitation*

This committee has begun a comparison of state standards for individual home water systems with the Joint Committee recommendations. Partial data have been compiled for 8 southeastern states. The committee will make the comparison available in its 1949 report.

C. *Research on Rural Water Supply Problems*

It does not appear that this field of research is receiving any marked attention at the present time.

The committee believes that research is needed on the following problems:

1. Requirements for protection of cistern water supplies
2. Treatment of home ground water supply containing excessive amounts of iron and manganese
3. Methods of continuous disinfection of home water supplies
4. Methods of disinfection of water lifted by hand pump

The committee would appreciate the receipt of information concerning research or standards now being developed by universities, official agencies, or individuals.

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School Sanitation*

Engineering Section

DURING the first year of the committee's activity the objective was to develop a bibliography of material and standards covering the various subject matters in school sanitation. This bibliography was published with the report of last year and has been found useful to many sanitarians throughout public health.

A pattern was set at Ann Arbor last year in June for arriving at group judgment in the field of food control. It would seem that there is need for a clinic on school sanitation to iron out some of the variations in opinion in standards for school plant design.

Your chairman met with a committee of the National Council of Education on school house construction at which school administrators and architects met to consider the problem facing school administrators in the next ten years in the remodeling and revamping of present facilities and the construction of new facilities. It was conservatively estimated that $10 billion would be spent in this type of activity and that it would be highly desirable that some agreement be reached now as to details of building design from the various experts. Many of these problems do not involve public health, but all of them have to be considered by the architect before construction starts. Costly mistakes should be avoided. Old mistakes should not be perpetuated.

The report on the utilization of plumbing facilities which was made by the National Council of Education is still the best material available on that particular subject, which has pointed out the absurd variation in plumbing requirements of the various areas. The following of the standards suggested in their report will effect material savings.

The experimental work in lighting that has been carried out by the Illuminating Engineering Society Committee on Lighting is the best information available in that field. The experimental work conducted at Nela Park Experimental Station at Cleveland points the way to the latest thinking in light control and its application. Dr. Darell B. Harmon and others have been very successful in making field application of recommendations of the lighting engineers with the use of revamped window areas, more judicious use of color dynamics in painting the rooms, the selection of chalk boards that do not absorb light, and the use of shades to cover the chalk boards while not in use, all of which improve the quality as well as the intensity of light in existing structures without undue cost.

The work that has been carried out in sewage disposal by other committees is expected to point the way toward any improvement in septic tank installation that may be needed.

In connection with sewage disposal: Last winter in Michigan, during the extreme cold weather that existed during January, several school septic tanks and disposal fields froze. Six of these units were excavated while they were frozen and found to have ice on the tank

* Report of the Committee.
COMMITTEE ON SCHOOL SANITATION.
Organized 1947. Published Report: *Year Book* 1947–1948.

and in two cases ice in the tile field and in all cases the inlet pipe was frozen full. Several useful recommendations come from this experience. It was found, for instance, that by placing five pounds of salt daily in the toilet stool nearest to the frozen area that the ice plug would thaw out and several schools were able to put their system back into service by using this method.

The placing of sewer lines and septic tanks in schools where the eaves can drain onto the ground causing the soil to be saturated produced a condition that made it easy to freeze the lines. It was also found that paths worn by the children and the water from the eaves had eroded the ground in these areas so that the cover over the sewer line was packed tightly and was worn down several inches from the original grade. By placing additional fill and eave-troughs with down spouts in these areas it is thought that it would prevent a reoccurrence of these conditions.

The Study Group on Sanitation of the American Public Health Association, under the Subcommittee on State and Local Health Administration of the Committee on Administrative Practice, has suggested that grading systems be developed for all of these areas of environmental control, such as the grading system now used to grade a milk shed or a restaurant program. The Committee on School Sanitation this year has collected several grading procedures to determine if any of the systems that are now being used are suitable to rate the status of school sanitation in an area. All of the systems that have been reviewed to date involve a numerical percentage point assigning a weight to each item scored which totals 100 per cent for all the items. It is obvious that there are certain key items that are important enough so that a substandard condition should be assigned enough points to degrade the school in a poor class. A good example of this would be water supply or sewage disposal. In other words, if the water supply was found to be unsafe or the sewage disposal insanitary, it is a condition which should receive high enough penalty points to score the school substandard and potentially dangerous.

The Michigan Department of Health has used a system of colors, which gets around the numerical rating, and if any key item is found to be substandard the color arrangement is developed in such a way that the entire school would be scored a poor color. While this works very well on an individual school, it is not practical on an area basis.

The Committee on the Hygiene of Housing has developed a system of penalty points which is the reverse of the system used in rating a milk shed or the ones that are now used in school sanitation. This system assigns penalty points to items that are in non-compliance, and if every item were satisfactory the score for the school would be zero. In this way it is possible to exceed 100 penalty points to any extent necessary. This system has worked very successfully with housing and certain items are scored as basic deficiencies, which are considered the important items. Such a scoring system might well be developed for rating schools.

There is not a uniform group of items used by sanitarians for grading schools. The committee has developed a list of broad topics that are thought to be important in inspecting schools (see Table 1).

There are standards now available that are uniform for most of these items. The items of safety, hall widths, stairway construction, exits, and fireproofing are available through the recommendations of the National Board of Fire Underwriters, New York City. The utilization of sanitary facilities which suggests the number of toilets, drinking fountains, and lavatories is available through the American Council of Education,

TABLE 1

Group I	*Group II*	*Group III*
Site	Water supply	Sewage disposal
Structure	Drinking fountains	Refuse disposal
Rooms	Food Equipment	Source of food
Seating	Showers and Locker Rooms	Handling procedure of hot lunch program
Heating and ventilating	Swimming pool	Housekeeping
Lighting	Handwashing facilities	
Safety	Toilet facilities	

Washington, D. C. An abundance of material and suggested standards of lighting, painting, and color choices is available through most paint manufacturers and power companies.

The arrangement of school furniture and the most desirable types of seating is fairly well agreed upon by the educators. The seating should be moveable and adjustable.

Answers are still needed in some items, such as:

1. Is open window ventilation satisfactory?
2. Where mechanical ventilation is used, how many cubic feet of air per child is required?
3. How much, and under what circumstances, can air be recirculated safely?
4. What are the optimum temperatures and humidity conditions for health and learning?
5. Is air conditioning feasible and economical under typical school conditions?
6. How much water is consumed per pupil?
7. How much septic tank capacity should be provided per pupil?
8. How much floor space should be provided per pupil?
9. What are satisfactory methods of dishwashing and food handling in rural schools?
10. How should the floor be treated and what are suitable coverings for the floor?

The American Council on Education is making an effort to find financial assistance to hire a staff to investigate these problems and to set up a clearinghouse for information and useful ideas. The Committee on Educational Plant and Equipment recommended a research project which would extend for three years at a cost of $50,000 per year to work on problems of school plants and equipment. Such a project is needed to find the best answers to these problems and could save many dollars in future construction.

The problems in school sanitation divide themselves into four classifications:

1. The one or two room rural school, which produces its own water supply and provides its own sewage disposal facilities on the school site and is constructed with or without a basement.
2. The consolidated school, located in a rural area, which has its own water supply and sewage disposal facilities.
3. The graded school or high school unit found in the average urban community.
4. The large urban school or college which has groups of buildings and grounds.

The problems in each of these schools are materially different and need special study and application. To date, the committee has been concerned primarily with the first three classifications with the bulk of the emphasis on the first classification.

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Water Supply*

Engineering Section

RECENT reports of this committee have discussed important trends which pertain directly or indirectly to the quality of public water supplies. This policy has been continued this year.

The high cost of material and labor and the unsettled economic conditions have led to the postponement of many improvements to water supply systems and to an increase of as much as 250 per cent in the cost of construction work as compared with pre-war conditions. This unfortunate situation is resulting in still further prolonging the delayed maintenance characteristic of the depression period and the subsequent war period. As a result, many water supply systems are overloaded and are in urgent need of repair and expansion. A survey of water supply needs by the U. S. Public Health Service discloses estimated construction costs as of 1947 to be $2,269,000,000, of which 17 per cent was for projects ready for construction, 27 per cent for those being planned, and 56 per cent for those considered to be future projects.

The estimated population of 2,360,000, residing in small communities not served by public water supply systems, is of public health significance, because many private wells in such communities have been found to be subject to pollution because they must of necessity be located close to potential sources of pollution. Public water supply systems needed to supersede these private wells are considered to be practicable for communities as small as 200 population. Health officials should support this essential construction program.

More attention is being given to water resources and to long-range planning as to the appropriate use of such resources. A Water Resources Division of the American Water Works Association was organized this year. There is growing interest in the development of standards of well construction. State organizations of well drillers are becoming active. It is very evident, therefore, that public health engineers should consider the role of health departments in the licensing of well drillers, the enactment of official well codes, etc. There are so many aspects to this subject that great care must be exercised in the development of state programs so as to avoid inconsistencies and thus retard developments on a nation-wide level.

WATER-BORNE DISEASES

The stream pollution abatement programs under way in a number of states, supplemented and coördinated by federal government under provisions of recent legislation, have led to considerable popular literature on the subject which focuses attention upon water-borne diseases as justifying stream pollution abatement. Unfortunately, much of this literature is so misleading as to give the impression to the layman that most public water supplies are secured from sewage polluted streams, and conversely that the mere installation of sewage treatment plants will lead to safe water supplies.

A reëxamination of the statistics of

* COMMITTEE ON WATER SUPPLY.
Organized 1922. Published Reports: *A.J.P.H.*, Sept., 1924, Apr., 1925, Feb., 1926, July, 1927, Apr., 1928, Feb., 1929, May, 1930, *Year Books* 1930–1931, 1931–1932, 1932–1933, 1934–1935, 1937–1938, 1939–1940, 1940–1941, 1941–1942, *A.J.P.H.*, July 1945, May, 1947, Feb., 1948.

water-borne diseases was made recently by Eliassen and Cummings[1] so as to focus attention upon the generally satisfactory character of public water supplies, but at the same time to indicate improvements in technique and control which are needed to reduce further the incidence of water-borne diseases, especially among those served by private and semi-public supplies of institutions and summer resorts in rural areas. In other words, sanitation including water supply supervision must be brought to the rural population which often lives under conditions of exposure characterized by urban communities in pre-sanitation days.

Gastroenteritis continues to present a baffling technical problem. It would seem that much gastroenteritis is spread by contaminated food or by direct contact under insanitary conditions. Water-borne gastroenteritis also is associated with insanitary conditions. Frequently such outbreaks are found to be mild bacillary dysentery. The continued prevalence of obscure outbreaks, where no known pathogens have been isolated from stool specimens, led to a research program by the New York State Department of Health.[2] Preliminary results indicate that at least one type of virus has been isolated. Volunteers have been infected by the oral route under laboratory conditions. It has not been demonstrated as yet, however, whether this virus actually is transmitted by polluted water supplies nor is there any information as to the susceptibility of the virus to the action of chlorine. It may be that the virus is spread primarily by contaminated food or by direct contact under insanitary conditions. These studies are being continued.

Previous reports of this committee have discussed the lack of epidemiological evidence that poliomyelitis is spread by water supplies. Nevertheless the virus has been isolated from sewage and thus the committee has felt justified in drawing attention previously to the disclosure that the virus is susceptible to the action of conventional concentrations of free residual chlorine. Unpublished results of the continued studies by the Michigan Department of Health have indicated that this effectiveness is restricted to the range of lower pH values, but that lime-soda softened waters should be prechlorinated before the alkali is added to insure satisfactory destruction of the virus. We understand that at least one city in Michigan is planning a prechlorinating contact chamber for this purpose.

TOXIC ALGAE

Domestic animals have been reported as dying following the consumption of surface waters containing prolific growths of blue-green algae. The conclusion has been reached that this may be due to the cyanide content of such aquatic vegetation. As far as the committee could learn through a nation-wide questionnaire answered by the public health engineers of 39 states and 2 territories, there is no known instance where such toxic effects have been noted among human beings. The inference is that potable waters containing such prolific growths of algae would not be consumed. This subject is being studied at the University of Minnesota.

TRACE ELEMENTS IN POTABLE WATERS

The physiological benefits of small concentrations of iodine, fluorine, copper, etc., in potable waters, and conversely the toxic characteristics of somewhat higher concentrations of these and other elements, coupled with the recent disclosure that nitrates in excess of 10–20 p.p.m. may lead to cyanosis among infants, or that high concentrations of sodium may aggravate certain cardiovascular disorders, has focused attention upon trace elements in potable waters. The subject is being investigated at Johns Hopkins University and

elsewhere. It is very evident that more specific information is needed to forestall the popular misconception as to possible harmfulness of small concentrations of constituents in potable waters which heretofore have been ignored. In this connection it is pertinent to refer to an article by Levitt [3] which would be misleading to the layman in that the alleged harmful influence of small concentration of chlorine, fluorine, and bromine appears to be based upon definite data resulting from scientific research and extensive review of technical literature. Actually, the paper is very unsound technically—for instance, where residual chlorine which may remain temporarily in treated potable water is stated categorically to be responsible for degenerative processes, but where, for instance, the supporting argument gives no recognition to the fact that free chlorine very quickly is converted to the chloride ion and thereafter is identical to the ions of common salt present in much higher concentrations in food. While this article should not be taken too seriously it is being cited as a concrete example of confusion which prevails as to the physiological significance of trace elements in potable waters. Such confusion may well retard the progress of sanitation.

CYANOSIS DUE TO NITRATES IN POTABLE WATER

The significance of nitrates in potable water used in the preparation of formulae for infant feeding is being discussed at this session. It is pertinent at this time, however, to summarize the results of the nation-wide questionnaire of the committee which discloses the following situation:

Surveys have been reported in 13 of 39 states and 2 territories furnishing data. Concentrations of nitrates exceeding 20 p.p.m. in shallow, rural well waters have been noted in areas of 10 states. For instance, about 50 per cent of private wells in North Dakota so far examined yield water containing more than 20 p.p.m. nitrates. Concentrations of nitrates as high as 500 p.p.m. have been reported in 12 states and in Alaska. Actual cases of cyanosis, however, have been reported in only a few states, including North Dakota, where only 10 cases are known to have occurred in spite of the large number of rural wells containing over 20 p.p.m. nitrates.

Cornblath and Hartmann [4] recently concluded that only infants are involved because the pH of 4.0 or higher of their gastric juice enables nitrate reducing bacteria to function and form nitrites in the upper intestines, whereas the more acid gastric juice of older children and adults insures the assimilation of the nitrates before they are subject to this reducing action.

The surveys now in progress in a number of states, therefore, are needed to clarify this situation.

TOXIC METALS

The Drinking Water Standards of the U. S. Public Health Service now list the following metals as being toxic above the concentrations noted:

Lead, 0.10 p.p.m.; fluorine, 1.5 p.p.m.; selenium, 0.05 p.p.m.; and hexavalent chromium, 0.05 p.p.m.

Suggested upper limits are given for the following metals:

Copper, 3.00 p.p.m.; and zinc, 15.0 p.p.m.

The situation regarding the toxicity of chromium is somewhat indefinite because the toxic concentration noted above has been reported as being based upon transposition of values secured in the study of the toxicity of chromium dusts in industry. This uncertainty is under investigation. The nation-wide questionnaire circulated by this committee discloses that chromium wastes have been a problem in only 7 states and only then to a limited extent. Chromium is not an ingredient in natural waters but is incidental to the discharge of industrial wastes from aluminum anodyzing plants of the airplane industry.

The discharge of such wastes through percolation beds on Long Island in the absence of surface streams, has led to the pollution of ground waters, so that

concentrations of hexavalent chromium as high as 1.5 p.p.m. have been encountered in nearby well supplies. Because of this situation treatment facilities are under construction at 1 plant and are under design at 3 other plants, based upon established treatment procedure where the hexavalent chromium is reduced to the trivalent form, following which lime is added to form insoluble chromium hydroxide, which precipitates as a sludge. Similar plants have been installed in several other states.

Cadmium also is receiving attention as a toxic metal. Cadmium plating of plumbing fixtures has been reported but there is very limited information as to the possible future signifiance of this practice. Incomplete evidence seems to indicate that cadmium may be toxic when present in concentrations exceeding 0.5 p.p.m.

It is anticipated, therefore, that these problems will receive much greater attention now that extensive airplane construction is being resumed, and where new materials and industrial processes are being utilized.

CHLORINE DIOXIDE TREATMENT

The use of chlorine dioxide to destroy taste and odor producing compounds has received wide publicity. It is significant at this point to draw attention to research as to the disinfection characteristics of chlorine dioxide by the Massachusetts Department of Health and at the University of Michigan.[5] Tentative conclusions have been reached that chlorine dioxide appears to have disinfecting properties which are less affected by high pH values than equivalent concentrations of free residual chlorine. If these results are substantiated by studies with water of varying characteristics, it would seem that progress has been made in the disinfection of water having a high pH value incidental to corrosion prevention or lime-soda softening treatment.

CHLORINE RESIDUAL RECORDER

Ordinarily this committee would not refer to a single example of commercial water purification equipment, but the recent development of the chlorine residual recorder appears to represent an important stage in water chlorination practice. Experience at 14 installations has shown that the chlorine demand of water supplies fluctuates to a more marked degree than usually realized. In fact, these fluctuations have been correlated at some plants with details of operating control not usually associated with chlorination. Obviously the recorder permits closer control of chlorination within limits producing best results for a given water. The next logical development is the use of this equipment to control the dose of chlorine so as to maintain automatically a uniform concentration of residual chlorine in the treated water. Inasmuch as faulty operation of water purification plants has been found to be the cause of a number of outbreaks of water-borne disease, this development is of distinct public health importance.

BROMINE AS A DISINFECTANT

The nation-wide questionnaire distributed by the committee has indicated that bromine has been experimented with in several states but that it was used for a few years in the treatment of only a few public water supplies in one western state. Practical experience, therefore, is restricted to Illinois[6] where the water in 45 swimming pools has been disinfected for from 1 to 8 years. Bromine appears to be about as effective as chlorine as a disinfectant when present in equivalent concentrations. Its use in swimming pools is reported to produce less irritation of the eyes and throat and less taste and odor than comparable concentrations of chlorine. The bromine demand of water of high organic content, however, exceeds the comparable chlorine demand and resid-

ual bromine is less stable than residual chlorine. Bromine is reported as costing from 4 to 7 times as much as liquid chlorine.

Equipment for the application of bromine to water has not as yet been developed comparable to well established chlorinators. This disinfectant, however, warrants further study.

CIVILIAN DEFENSE

There has been considerable concern on the part of public health officials regarding potential hazards involved in the production and distribution of radioactive materials and particularly in the disposal of wastes resulting from their production and use. Much of this concern undoubtedly has risen from lack of available information with respect to the character of these wastes and adequacy of present methods of removing them from waters which have been contaminated.

The Armed Forces and the Atomic Energy Commission have recognized this problem and conducted courses of study for selected personnel who, in the event of disaster, could act in an advisory capacity to direct control measures.

The Atomic Energy Commission is receiving coöperation from the U. S. Geological Survey, the U. S. Public Health Service, and the U. S. Weather Bureau in considering disposal of liquid and gaseous waste at its various operating areas. In addition, a research program has been organized to study the effect of radioactivity on the more common biological processes used in sewage treatment.

During the past 2 years there has been a marked increase in the number of shipments of radioisotopes for use in medical and other research institutions. There has been concern on the part of public officials regarding unregulated discharge of wastes resulting from the use of these materials into public sewer systems. This problem is also under investigation by the Atomic Energy Commission.

The Office of Civilian Defense Planning has prepared a report covering all phases of national defense which includes a special section on public health activities. This document, which is unrestricted, is scheduled for early publication and distribution.

CONCLUSION

It is evident, therefore, that the supervision of public water supplies by health officials still presents many problems and opportunities and that the public health importance of this activity is not disclosed by typhoid fever statistics, nor can it be overlooked while exploiting novel or new aspects in the control of the environment. The financing of improved and expanded water supply systems and technical problems requiring basic research represent the outstanding challenges.

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CHARLES R. COX, Water Supply Section, New York State Department of Health, Albany, N. Y., *Chairman*

H. J. DARCEY

RAY L. DERBY

RAYMOND J. FAUST

ARTHUR E. GORMAN

HAROLD S. HUTTON

RAYMOND J. KARPEN

ARTHUR D. WESTON

Food and Nutrition*

THE Food and Nutrition Section held two independent and five joint sessions in connection with the 76th Annual Meeting of the Association in Boston, Mass., November 8–12, 1948.

The program and attendance follow:

Independent Session "Food Production and Processing in Relation to Conservation of Nutrients"	200
Joint Session with Laboratory "Milk"	165
Independent Session (held concurrently with joint session on "Milk") "Nutrition in Public Health"	175
Joint Session with American School Health Association "Child Nutrition"	220
Joint Session with Laboratory "Nutrition in Infection"	300
Joint Session with Health Officers, Laboratory, and Engineering "Sanitary Practices in the Food Industry"	216
Joint Session with Maternal and Child Health and Public Health Nursing "Content of Maternal and Neonatal Health Services"	400

MINUTES OF THE ANNUAL BUSINESS MEETING

The membership of the Nominating Committee was read by the Secretary at the opening of the first session at 9:30 a.m. Tuesday, November 9.

The business meeting was called to order at 11:30 a.m. Tuesday, November 12, by Marjorie M. Heseltine, Section Chairman.

The following committee reports were accepted:

Sanitary Practices in the Food Industry, Harry Goresline, *Chairman*

Committee on Standard Methods for Microbiological Examination of Foods, Harry Goresline, *Chairman*

Nominating Committee—Chairman presented the following slate:

Chairman—Harry Gorseline
Vice-Chairman—Paul Prickett
Secretary—Alice Smith
Councilor—(for the term ending 1953) Frances McKinnon
Representative on A.P.H.A. Committee on Eligibility *—Marjorie M. Heseltine
Representative on A.P.H.A. Governing Council, Nominating Committee—Ethel A. Martin

There were no nominations from the floor and the Secretary was instructed to cast a unanimous ballot for the slate presented by the Nominating Committee. (See changes listed under "Officers and Council Members" in report of Section Council Meetings.)

Marietta Eichelberger, *Chairman*, Nominating Committee
Fred Tanner
Henry T. Scott
Rachel Reed

Membership and Fellowship

The Chairman was inactive during the year and absent from the business meeting. The Secretary submitted the following report:

	9-1-1947	*9-1-1948*	*11-1-1948*
Members	439	452	452
Fellows	106	104	111
Total	545	556	563

The membership is evenly divided between those in the field of Food and those in Nutrition.

Thirty-nine applied for Fellowship and 38 were approved by the Section Council and submitted to the Association's Committee on Eligibility.

Dr. Kimball, Chairman of the Goiter Committee of the American Public Health Association, American Medical Association, U. S. Public Health Service and the State and Territorial Health Officers Association, gave a progress report of that committee and included a comment on proposed legislation for 1949.

Resolutions

Dr. Glen Slocum, Chairman of Resolutions Committee, read the following Resolutions:

School Lunch Program

WHEREAS, the service of nourishing noon meals at school is an important part of a program of health services and health education for children of school age; and

WHEREAS, the benefits of school lunches are freely available to all children only where public funds defray a substantial part of the cost of food, service, and administration; and

* Report of the Food and Nutrition Section Secretary.

* 2 year appointment

WHEREAS, federal, state, and local appropriations during recent years have not increased sufficiently to keep pace with rising costs of food and labor for preparing lunches, therefore be it

RESOLVED, that the American Public Health Association hereby endorses continued federal support under the National School Lunch Act and adequate state appropriations for matching federal funds and for the efficient operation of the program.

Red Cross Nutrition Service

WHEREAS, the current high costs of living in general and of high food costs in particular threaten the adequacy of family diets, and

WHEREAS, studies have shown that effective community education programs enable homemakers to obtain the maximum return in money expended for food, and

WHEREAS, local chapters of the American Red Cross are uniquely equipped to offer such an educational program, especially in urban areas, therefore, be it

RESOLVED that the American Public Health Association convey to the appropriate individuals its hope that this community nutrition service be continued and that chapters can continue to count on adequate consultation and other assistance from national and area offices.

It was moved and seconded that both resolutions be submitted to the Association's Committee on Resolutions for consideration by the Governing Council. The first resolution was adopted. The second was reported received.

Meeting adjourned—12:15 p.m.

MINUTES OF THE MEETINGS OF THE SECTION COUNCIL

Two meetings were held. The *first* meeting was called to order on Monday, November 8, at 4:00 p.m.—adjourned at midnight.

Officers and councilors present were:
Marietta Eichelberger
Harry Goresline
Marjorie M. Heseltine, *Chairman*
Margaret C. Moore
Alice Smith, *Secretary*

The *second* meeting was called to order on Thursday, November 11, at 12:15 p.m.—adjourned at 2:15 p.m.

Those present were:
Marietta Eichelberger
Harry Goresline
Marjorie M. Heseltine, *Chairman*
Frances McKinnon
Margaret Moore
Alice Smith, *Secretary*

Order of Business:

I. *Fellowship and Membership*

In the absence of the Section's representative on the Association's Committee on Eligibility (Mr. Ole Salthe), Miss Marjorie M. Heseltine again represented the Section. Thirty-nine applications for Fellowship were reviewed by the Section Council. Thirty-eight of them were submitted to and approved by the Committee on Eligibility. All membership applications published in the *Journal* and not approved by the Section Council were approved at this time.

II. *Progress Reports*

A. Merit System—In May, Miss Catherine Leamy assumed responsibilities of nutrition consultant to the Merit System Unit of the American Public Health Association. Miss Leamy has been reviewing and writing questions. Twelve public health nutritionists throughout the country are assisting with the preparation of questions.

B. Food and Nutrition Board—The secretary was instructed to relay to Dr. Atwater a memorandum recommending that the Association Executive Board submit to the National Research Council a request for the appointment of a liaison member from the American Public Health Association to the Food and Nutrition Board of the National Research Council.

In the event that such an invitation is extended to the Association, it would seem appropriate that an officer or a member of the Council of the Food and Nutrition Section serve as liaison member. The Section Council would like the opportunity to name the Association representative.

C. Program—The Secretary reported that the technique of canvassing Section members for program suggestions was a successful one and is worthy of repetition.

III. *Committee Reports*

A. Committee on Sanitary Practices in the Food Industry—Harry Goresline, *Chairman*. This committee was formed after the 1947 Annual Meeting, and plans to "bring together the available information in the field of sanitation, as it applies to the handling, processing, storing, transporting, and serving of food products, and from that information prepare a manual of effective, reasonable, and workable sanitary practices for the guidance of those engaged in, or dealing with the food industry." A preliminary outline of subjects to be covered in the proposed manual has been circulated to committee members and subject matter has been assigned to some members. The committee of fourteen has representation

from the Health Officers, Laboratory, Engineering, and Food and Nutrition Sections.

B. Committee on Standard Methods for the Microbiological Examination of Foods—Harry Goresline, *Chairman*. Dr. Goresline's report was on "Tentative Methods for the Microbiological Examination of Dehydrated Fruits and Vegetables." Dr. Goresline reported that work needs to be included on Precooked Frozen Foods and on Mayonnaise and Salad Dressing. The complete report has been submitted to the Association's Coördinating Committee on Research and Standards. The Committee on Microbiological Examination of Foods will no longer function as a section committee, but rather as a subcommittee of the Coördinating Committee on Research and Standards. Dr. Goresline has accepted the invitation to serve as chairman this year.

C. Committee on Research and Standards—Lloyd Jensen was appointed as the Section's representative. Dr. Jensen was not present and no report was submitted. The minutes of this committee's meeting were circulated to Section Council members at an earlier date.

IV. *New Committee*

Several members of the Section requested a committee be appointed to consider the implications for health and nutrition of some of the newer Practices in Food Production and Processing—this is to include insecticides, spray residues, food adjuncts, mold inhibitors, etc. Suggestions for committee membership are being sent to the chairman for consideration.

V. *Officers and Council Members*

Dr. Goresline submitted his resignation as Section Chairman. This action was prompted by his interest in and acceptance of the chairmanship of two committees. The chairman of the Nominating Committee was asked to review the deliberations and considerations of the committee, and present nominations to the Council. The Council elected Paul Prickett as *Chairman*. Since Dr. Prickett had been elected vice-chairman, he was contacted, resigned as vice-chairman, and accepted the chairmanship. This left a vacancy in the office of vice-chairman — Margaret Moore was elected. Miss Moore's unexpired term of Councilor was then filled by William H. Sebrell, Jr., M.D.

VI. *Rapporteur for Annual Meeting*

Fredrick Stare was appointed the Food and Nutrition Section's representative for reporting the highlights of the sessions at the summarizing general session. Dr. Stare chose to comment on only one paper.

VII. The Secretary submitted names of several members to Dr. Atwater to be invited to study and evaluate exhibits along with representatives of all other Sections.

VIII. *Editorial Board Luncheon Meeting*

Friday noon, November 12, the officers and councilors were the guests of the Editorial Board at a luncheon—the fee for which was "the grading of the papers presented at the annual meetings." This meeting was attended by the same persons who attended the Section's second Council meeting.

The Section officers and councilors, and especially the Secretary, wish to take this opportunity to thank all the members for their coöperation throughout the year.

We wish particularly to thank Dr. Atwater, Mrs. Walsh, and Miss Siemer for their many suggestions and the work they performed for the members.

ALICE H. SMITH, *Secretary*
Food and Nutrition Section. The American Public Health Association

OFFICERS AND COUNCIL MEMBERS
FOOD AND NUTRITION SECTION
AMERICAN PUBLIC HEALTH ASSOCIATION
November 13, 1948

Chairman—Paul Prickett
Vice-Chairman—Margaret Moore
Secretary—Alice H. Smith
Council Member (1949)—D. K. Tressler
Council Member (1950)—W. H. Sebrell, Jr., M.D.
Council Member (1951) — M. Eichelberger, Ph.D.
Council Member (1952)—Lloyd Jensen, Ph.D.
Council Member (1953)—Frances McKinnon
Representative A.P.H.A. Committee on Eligibility—Marjorie M. Heseltine
Representative A.P.H.A. Governing Council Nominating Committee—Ethel A. Martin

Section Committees
Committees and Chairmen

Sanitary Practices in the Food Industry—Harry Goresline, Ph.D.
Membership and Fellowship—Marjorie M. Heseltine
Nominations—Ethel A. Martin
Newer Practices in Food Production and Processing—(to be appointed)
A.P.H.A. Coördinating Committee on Standards of Research—Committee on Microbiological Examination of Foods—Harry Goresline, Ph.D.

Sanitary Practices in the Food Industry*

Food and Nutrition Section

THE Committee on Sanitary Practices in the Food Industry was formed after the 1947 meeting of the Association and has spent the year in organizing, clarifying the field of activity, and in laying out the work to be done. The committee was formed to bring together the available information in the field of sanitation, as it applies to handling, processing, storing, transporting, and serving food products, and from that information to prepare a manual of effective, reasonable, and workable sanitary practices for the guidance of those engaged in, or dealing with the food industry. Realizing that the field was broad and that the interest of various groups was involved, the committee was made up of representatives of the Engineering, Health Officers, Laboratory, and Food and Nutrition Sections of the Association. Each Section was asked to suggest those members having a definite interest in this type of work and who could prepare authoritative material. A representative committee of 14 members was made up from this list.

In keeping with the above objectives, the four Sections agreed to hold a joint session during the 1948 annual meeting, the program to deal with sanitary practices in the food industry. A program of 6 papers dealing with different phases of the subject was organized during the year for this joint session.

A preliminary outline of the subjects to be covered in the proposed manual was circulated to the committee membership and some agreement reached as to the manner in which the manual should be prepared. It has been tentatively agreed that the manual shall take the form of a series of discussions covering the principles and practices of sanitation as background material, followed by discussions on specific problems of individual food industries.

Members of the committee were asked to assume responsibility for certain sections of the manual and at the present writing about one-half of the general subject matter has been tentatively assigned. It will be necessary to go outside the committee for assistance in preparing certain sections, particularly those dealing with specific food industries.

In order to bring about a better understanding between committee members regarding the work to be covered and the manner in which the material is to be presented, a conference of 8 members of the committee has been arranged during the annual meeting. It is believed that during the conference plans can be completed for the work of the committee and the scope of the work outlined more clearly.

HARRY E. GORESLINE, PH.D., U. S. Department of Agriculture, Washington, D. C., *Chairman*
HAROLD S. ADAMS, Engineering Section
J. LLOYD BARRON, Engineering Section
GAIL M. DACK, M.D., Laboratory Section
V. L. ELLICOTT, M.D., Health Officers Section

* Report of the Committee.
COMMITTEE ON SANITARY PRACTICES IN THE FOOD INDUSTRY.
Organized 1947.

GEORGE J. HUCKER, PH.D., Food and Nutrition Section
LLOYD B. JENSEN, PH.D., Food and Nutrition Section
CYRIL K. JOHNS, PH.D., Laboratory Section
WALTER L. MALLMANN, PH.D., Laboratory Section
JOSEPH C. MOLNER, M.D., Health Officers Section
E. H. PARFITT, Laboratory Section
PAUL S. PRICKETT, PH.D., Food and Nutrition Section
PAUL F. SHARP, PH.D., Food and Nutrition Section
MARION F. TRICE, Engineering Section

Report of the Archivist, 1948

Laboratory Section

THE Section is indebted to Dr. Edmund K. Kline and, more recently, to Dr. Geoffrey Edsall, as *Secretary*, for maintaining the regular deposit in the archives of the minutes of the Section Council and of reports on Section Meetings. Dr. Friend Lee Mickle deposited copy of the minutes of the final meeting of the Section Coördinating Committee on Standard Methods, held October 8, 1947; and also copy of Dr. Robert S. Breed's resignation dated October 1, 1947, as *Chairman* of the Editorial Committee of the Standard Methods for the Examination of Dairy Products, the ninth edition of which has now been published. Dr. Breed's review in this letter of his connection with the work from 1909 is a pertinent archival note. A further deposit from Dr. Kline during the year is a letter from Dr. Mazÿck P. Ravenel, written September 23, 1941, with recollections of various notable figures in the field of bacteriology during the past fifty years.

Other members of the Section have also remembered the archives. Throughout the year scattered replies were received to the 1947 canvass of activities related to World War II. Photographs were given by Dr. Thomas A. Hart, Roosevelt College, Chicago, and Dr. Gustave J. Dammin, Washington University School of Medicine, St. Louis, and Director of Laboratories, Barnes Hospital. Dr. Dammin called special attention to the U. S. Army film, "Army Medical Laboratories." He was technical adviser for the film and asked that arrangements be made for its presentation in the film displays sponsored by the Association at the Boston meeting. It shows many excellent scenes of Army laboratories, and Dr. Dammin believes it contains material of value in relation to the archives of the Section. One of Dr. Dammin's interesting photographs, taken in 1944, is of the laboratory of Dr. Seagrave's hospital in Burma serving Chinese troops.

A valuable unit of the archives is the collection of photographs and biographical records of the officers of the Section. I thought it might interest you to see how this collection is maintained, so a simple exhibit has been made of the photographs of the officers at the time of the previous meetings of the Association in Boston in 1905 and 1922: In 1905, Dr. William H. Park, New York, Chairman; Dr. Harry W. Clark, Boston, Vice Chairman; Dr. John J. Fulton, Baltimore, Secretary; Dr. H. D. Pease, Recorder: in 1922, Dr. Frederick F. Russell, Chairman; Dr. A. Parker Hitchens, Vice Chairman; Dr. John F. Norton, Secretary.

Also shown in the exhibit is a program of the 33rd Annual Meeting, September 25–29, 1905, in Boston. Dr. Theobald Smith was the first Chairman of the Laboratory Section after its formal organization in 1900 and in the program of 1905 is found one of his now historic contributions, "The Fermentation Tube in the Study of Anaerobic Bacteria with Special Reference to Gas Production and the Use of Milk as a Culture Medium."[1] His paper was followed by one by Dr. Oskar Klotz, Montreal, on "Temporary alteration of character in an organism belonging to the colon group,"[2] which Dr. Smith discussed. Among the collection of papers received from Dr. Pease, Re-

corder, and which are the body of early archival material available, it was interesting to recognize Dr. Smith's original pencil note of this brief discussion [2a]:

"Dr. Klotz's paper is very interesting and suggestive. Much is still to be done to determine how much bacteria may vary under changing conditions. My own observations of a large number of cultures of *B. coli* and its variants lead me to regard the gas production and gas formula as a very stable function. I have never seen any change in cultures in my hands, although I have kept them for years. It seems, however, as brought out by Dr. Klotz and in an earlier paper by Mr. Fuller, that the gas production of the colon bacillus may be temporarily aberrant when the organisms have been in an untoward environment. Whether the character can be wholly altered by a persistence of such environment is a question of very great importance."

The deaths of the following members of the Section are recorded with regret:

Karl R. Bailey, M.D., Boston, Mass.
Elected member 1946

Fred Boerner, M.D., Philadelphia, Pa.
Elected member (1943)

Elizabeth C. Brown, Columbia, Mo.
Elected member 1938; Fellow 1942

Harly A. Bunner, Atlanta, Ga.
Elected member 1946

Hyman M. Charm, Sc.D., Bronx, New York, N. Y.
Elected member 1937

Joe Davis, Seattle, Wash.
Elected member 1943

Conrad Kinyoun, Savannah, Ga.
Elected member 1926, Fellow 1933

Leslie A. Sandholzer, Ph.D., College Park, Md.
Elected Member 1940, Fellow 1944

REFERENCES

1. Smith, Theobald, Brown, Herbert R., and Walker, Ernest L. The Fermentation Tube in the Study of Anaerobic Bacteria with Special Reference to Gas Production and the Use of Milk as a Culture Medium. *Public Health: Papers and Reports Presented to the Laboratory Section at the Thirty-third Annual Meeting of the American Public Health Association*, Boston Mass., September 25, 1905. *Transactions, 31*, Pt. II:229–240, 1906.

2. Klotz, Oskar. Temporary Alterations of Character of an Organism Belonging to the Colon Group. *Public Health: Papers and Reports Presented to the Laboratory Section at the Thirty-third Annual Meeting of the American Public Health Association*, Boston, Mass., September 25, 1905. *Transactions, 31*, Pt. II:35–39, 1906.

(a) Discussion by Dr. Theobald Smith, p. 249.

ANNA M. SEXTON, Division of Laboratories and Research, New York State Department of Health, Albany, N. Y.

Commission for the Study of Biological Stains*

Laboratory Section

DURING the past year the Stain Commission has completed the removal of its activities from the New York State Agricultural Experiment Station in Geneva. Laboratory activities, both chemical and biological, are now carried on in the University of Rochester, and business and editorial offices are located in a business office in Geneva.

Dr. H. J. Conn, the President of the Commission, who has served so faithfully since its inception retired from the Staff of the Agricultural Experiment Station, May 1, 1948, and is devoting his full time to Stain Commission activities. During the coming winter Dr. Conn plans to spend several weeks on a trip to the West Coast to promote the activities of the Commission.

Routine examination and certification of new lots of stains before they are placed on the market has been continued as heretofore, approximately 65 lots of dyes being completely tested both chemically and biologically prior to certification in the past year.

It has been possible to obtain a number of German made stains subsequent to the war and many of these have been tested in the laboratories of the Commission in comparison with present-day dyes of American manufacture, with the American stains showing a general superiority. This work will be continued and reported in more detail at a later date.

Publication activities have also been continued along the lines followed in past years. *Stain Technology,* the quarterly journal, has become a problem because of the large amount of excellent material that is presented for publication. Until the present time about 150–160 pages were published annually. This year's volume will amount to about 232 pages, an increase of some 44 per cent. It has been decided to increase the size though this will make it necessary to raise the subscription price by $1.00 per annum.

A new Second Edition of the book *History of Staining,* by Dr. Conn and collaborators was published early in the fall of 1948 after the text had been out of print for over a year. An index of all material contained in the various leaflets on Staining Procedures was prepared and published, in March, 1948. One leaflet has been revised and reissued this year (*Animal Histology; Miscellaneous Methods*).

Research grants have been continued and at present are being given to three universities: Rochester, Northwestern, and McGill. Additional grants for research are possible.

Income from the various projects of the Commission exceeded operating expenses by a comfortable margin as in several immediate past years. However, research grants are not considered as a part of operating expenses and have in part been paid out of capital funds of the Commission, reducing these funds by about 2 per cent.

Once more members of the American

* Report of the Association Representative. Published Report, *Year Book* 1947–1948.

Public Health Association who are interested in problems dealing with stains as related to bacteriology are invited to seek the coöperation of the Stain Commission. Perhaps we can jointly work out a program for further investigations of your problems.

EDMUND K. KLINE, DR.P.H.,
Association Representative on the Biological Stain Commission

Camps and Camping*

Maternal and Child Health Section

I. WHAT CONSTITUTES RECREATION CAMPS

THE following shall be regarded as constituting recreational camps.

All places of camping character, as the term is commonly understood, which are utilized wholly or in part for recreational purposes and operated for a period of 30 days or more during one or more seasons of the year, whether continuously or otherwise, and which receive the patronage, whether paid or not, of five or more children who are not bona fide personal guests in the home of an individual, and any of which children, not accompanied by parent or guardian, is under 18 years of age.† Such patronage may be for recreational purposes solely or for a combination of recreation, health, and instruction, and may be for profit or under philanthropic or charitable auspices.

II. CAMP SITES

A. *Camp Location and Upkeep*

1. Camps should be located on suitable and well drained grounds of sufficient area adequately to meet needs, free from natural hazards such as mosquitoes, ticks, poisonous snakes, etc., that may be prevalent in the area. The soil should be suitable for the disposal of wastes by the method contemplated.

Roads, trails, and walks for the use of the camper and public, in connection with the camp, should be so guarded or posted as to insure safety.

The premises and equipment should at all times be kept in a clean and safe condition and free from vermin.

Areas immediately adjacent to buildings, council rings, paths, etc., should be freed of poison ivy, poison oak, etc. Some new chemicals such as ammate or 2,4-D are highly efficient for this purpose.

III. BUILDINGS, SLEEPING QUARTERS AND EQUIPMENT

1. All buildings, tents, vehicles, and grounds should be maintained in a clean, sanitary condition at all times.

2. Adequate sleeping place should be provided for each person. No room used for sleeping purposes should have less than 600 cu. ft. of air space for each occupant.

3. Ventilation in sleeping quarters, kitchens, dining rooms and mess halls should provide a reasonable movement of air at all times and assure the comfort and protection of the occupants.

4. The doors, windows and other outer openings of kitchens, dining halls, and sleeping quarters should be adequately screened, where health or comfort of the campers warrants it.

5. All floors should be sufficiently raised above the ground so that they will remain dry.

6. The area of window space in each sleeping room should be equal to at least one-eighth of the floor area of the room.

7. Windows of sleeping rooms should be so constructed that at least half of each window can be opened.

8. Any permanent buildings in which persons are housed should provide ready exit in case of fire. Fire extinguishers or other fire fighting apparatus must be

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* Report of the Committee.
COMMITTEE ON CAMPS AND CAMPING.
Organized 1942.

† This refers to the organized type of camp with permanent or semipermanent facilities.

adequate and should be placed where easily accessible. When chemical extinguishers are used, they should be inspected and tested immediately before the opening of camp and at least every 2 months during the camping season. Where water buckets or pails of sand are provided, they should be checked weekly. Water buckets should be protected to prevent mosquito or other insect breeding. Two suitable exits should be available for each semi-permanent or permanent structure.

IV. ADMINISTRATIVE PERSONNEL

1. There should be a responsible person in charge of the camp, present in the camp at all times so long as campers are present.

2. Some member of the camp staff should be charged specifically with the responsibility for the sanitation of the camp.

3. In general, the camp nurse or physician is too busy to carry on the additional work involved in health education. This is best done by group leaders or counselors. Special training may be necessary for these leaders. Likewise, the routine cursory daily check for obvious symptoms of illness can best be given by the group leaders or counselors, provided they have had some instruction from the camp physician.

V. CAMP WATER SUPPLY

1. The camp director should observe the local health laws concerning camp water supply.

2. The water supply for drinking and culinary purposes should be adequate and safe and approved by local or state health departments prior to the opening of camp. When water from a public supply is carried in, clean containers should be used. Such transportation should be done under the direct supervision of a member of the camp staff. Containers so used should be used for no other purpose, should be equipped with covers that protect the lip of the container, and should be sterilized as necessary. The water should contain at least 0.1 p.p.m. of free residual chlorine or some equally effective disinfectant at the time it is drawn in camp for consumption. Containers in camp should be fully protected against contamination and equipped with spigots or some similar method for drawing off the water. The use of a common drinking cup should be prohibited. If drinking fountains are provided, these should be of sanitary design and construction.

3. Wells and springs should be so located as to avoid any chance of contamination from buildings or other sources, and should be adequately protected. Such sources should be properly encased in masonry or tile, this to extend well above the surface of the ground, and a tight covering provided. Removal of water by dipping or drawing by a bucket is prohibited. Prior to the selection of springs or the construction of wells, advice should be sought from the local health authorities.

4. Connections between approved and non-approved sources should not be permitted. If a non-approved supply is used for any purposes, it should be separated from the approved supply and should be used in such a way that use for drinking or culinary purposes will be prevented. Non-approved supplies might be used for such purposes as flushing toilets. The water supply system should be examined by a competent person to locate and eliminate any possible danger, such as back siphonage. The use of lead pipe as conducting medium is prohibited.

VI. BATHING BEACHES AND SWIMMING POOLS

1. Swimming and bathing waters should be controlled so that they are in accordance with local and state regulations. "Recommended Practice for Design, Equipment and Operation of

Swimming Pools and Other Public Bathing Places,"[1] published by the American Public Health Association, is a dependable guide. The swimming area, including the drainage area feeding the body of water used for swimming should be free of possible sources for pollution, such as overflowing cesspools, open privies, etc. The responsible health department should be called upon to assist in determining the safety of the area. For a discussion of sampling, see the reference cited above. The bottom of natural swimming areas should preferably be of sand or gravel, free from excessive mud or silt deposit or vegetation. Shores should be kept free from any litter or unsightly material.

2. *Supervision* — Every place where swimming is conducted should be under the direction and supervision, during all swimming periods, of a competent and qualified person who should require careful observance of sanitary regulations. Such person should establish an individual check-in, check-out system for all swimmers. The "buddy system" is recommended particularly for children and non-swimmers. In the case of artificial or partly artificial pools the supervising person should also be responsible for a daily record concerning the volume of new water added, the time of cleaning the pool, and the quantity of disinfectant added. Swimmers should be inspected for skin infections, open lesions, etc., and should have a cleansing shower before entering the pool. This is particularly important in the case of artificial pools, usually much smaller than natural bathing areas.

3. All camps maintaining swimming facilities should provide adequate, well kept life saving equipment consisting of a nearby unlocked boat with oars and life belts, life ring with line, grappling hooks, long pole with hooks, ropes, and like equipment instantly available and in good condition. Red Cross standards or equivalent are to be observed.

4. Instructions should be given against urinating or spitting, or washing animals in the waters of bathing beaches. Adequate toilet facilities should be available at the bathing area. Care must be exercised to prevent pollution of the area by these toilets.

VII. TOILET AND SEWAGE DISPOSAL FACILITIES

1. The toilet facilities and methods of sewage disposal should be approved by the local or state department of health. There should be provided convenient and adequate toilet facilities, so located, constructed, and maintained that they shall not be offensive to the users, becoming the breeding place for flies, nor by leakage or seepage offer a possible contamination of adjacent waters. Sewage disposal systems should not allow seepage of sewage to the surface of the ground. Defilement of camp grounds by excretions should not be permitted to occur.

2. Where privies are used the construction shall involve a pit more than 2 ft. deep. Both the shelter and the pit shall be made fly tight; self closing lids on the seats shall be provided, and clean and sanitary conditions maintained at all times. No such pit should be permitted to become filled to less than 1 ft. below the surface of the ground. Privy contents should be removed as often as necessary and disposed of in a satisfactory manner.

If temporary, the pits should be filled in when contents arise to within 2 ft. of the surface of the ground. The surface of the pit contents should be thoroughly sprayed with oil or some other heavy disinfectant before back-filling. If permanent pits are used, i.e., concrete or brick, the contents of these pits should be dumped into a public sewerage system, if possible, otherwise buried. Care should be exercised during this entire emptying process to prevent pollution from utensils used, spillage, etc.

3. Chemical toilets, making use of caustic alkali, may be found preferable to privies. The accumulated fluid should be so disposed of underground that no hazard of pollution of any water supply or of any body of water will be entailed.

4. Since proper size and construction is essential for the satisfactory operation of a septic tank or cesspool, a public health engineer should be consulted in the construction of sewage disposal systems of these types.

5. No privy shall be within 100 ft. of any place where food is prepared or served. No privy, cesspool or septic tank should be within 75 ft. of any lake, pond, or stream, or within 100 ft. above or in *direct* line of drainage thereto of any well or spring.

6. Separate toilets should be provided for each sex, if both are to be in camp at the same time. At least eight seats per 100 and four urinals per 100 boys additional should be provided. Since diarrheal outbreaks may occur, increasing enormously the demand for toilet facilities, the camp staff must be ready to provide additional, satisfactory improvised facilities, as needed, until the emergency has passed.

VIII. GARBAGE AND WASTE DISPOSAL

All garbage and kitchen wastes shall be deposited in covered metal receptacles which shall be regularly emptied and cleansed, and the contents burned, buried or otherwise disposed of in such a manner as not to give rise to offense or to permit access of animals or flies. Burial is the most satisfactory method of disposal under crude conditions.

During summer months garbage cans should be emptied daily and washed before return to the garbage rack. Access to the contents of garbage cans by rodents or other wild animals should be prevented. Care must be taken to prevent the garbage rack or storage area for the garbage cans from becoming an insect breeding area or a nuisance because of spillage. Emptied tin cans should be rinsed to remove any possible food for insects, and then crushed to prevent the accumulation of water that might serve as a mosquito breeding accumulation.

IX. FOOD AND FOOD HANDLING

Adequate provision should be made for the sanitary storage, handling, protection, and service of all food supplies. Refrigeration for perishable products should be provided. Cooks and all food handlers should keep clean and wear clean clothing. No food handler, when ill, should work about the kitchen, except as permitted by a physician. In the case of food handlers, it is suggested that a health examination be given by the camp physician or that a very specific questionnaire be prepared so that assurance can be had that a thorough and meaningful physical examination has been given. Persons who have ever had typhoid fever should not be employed in the kitchen or handle food or food materials until it has been definitely determined by appropriate tests that such persons are not typhoid carriers.

X. MILK AND CREAM

Milk and cream and soft drinks supplied to camps should be produced and handled in accordance with the regulations governing, and should conform to the requirements respecting composition, labeling, and bacteria content. Only pasteurized milk and cream should be used.

XI. MEDICAL AND NURSING CARE

At all regularly established camps there should be:

1. A definite written arrangement by the camp management with a physician licensed to practice in the state to be on call at all times for medical service and to supervise first aid and nursing service in the camp.

2. Someone, either the camp manager or an employee designated for this purpose, in the camp at all times, who is especially trained in first aid service.

3. Adequate provision for first aid attention on all trips out of camp.

4. Standing orders issued by the physician to the person responsible for first aid service to be followed in the absence of the physician.

5. If at all possible, a telephone in camp, or available within 10 minutes' travel time therefrom.

6. Some means of quick transportation in case of emergency.

7. In all camps operated for children who are not physically normal, or at which the total number of persons, including campers, employees, and administrators, is at any time greater than 75, there should be employed: (1) a registered professional nurse, (2) a medical student who has satisfactorily completed 2 years in medical school approved by the state board of registration in medicine, or (3) a physician in residence. For the purpose of this section and of section 3, "registered professional nurse" should mean one who has qualified for such service under the law of the state, and at camps in which this service is in lieu of (2) or (3), above, she should be so qualified.

XII. COMMUNICABLE DISEASES TO BE REPORTED

All cases of communicable diseases occurring in camp should be immediately reported in accordance with regulations of the local health office. Such report in accordance with local or state regulations should include the name and home address of any individual in the camp known to have or suspected of having such disease. The method of isolation should be one approved by the local health officer. The person in charge should not allow the patient to leave or to be removed without permission of the health officer.

XIII. OTHER ILLNESSES

Whenever there should occur in camp any outbreak of suspected food poisoning or an unusual prevalence of any illness in which diarrhea, fever, sore throat, vomiting, or jaundice is a prominent symptom, it should be the duty of the person in charge of the camp to report immediately the existence of such an outbreak or disease prevalence to the local health authorities.

XIV. HEALTH EXAMINATION

The pre-camp examination, given by a physician, should ideally be made far enough in advance of the camp season so the remediable defects found, and necessary immunizing, can be taken care of before the opening date. This should always include smallpox, tetanus, and diphtheria protection and other indicated immunizations depending upon the location of the camp. In addition to this, there should be a brief examination shortly after arrival at camp by a registered nurse or physician, for early symptoms of contagion.

XV. HEALTH EXAMINATION OF STAFF

All members of the staff should have a complete health examination before camp opens. They should understand and be prepared to accept the responsibility of the physician or the nurse in relation to their own health. It is recommended that stool specimens of all food handlers be examined. Many state health departments will make these examinations without cost.

XVI. INFIRMARY

The camp administration is responsible for provision for adequate and safe infirmary facilities, including isolation. It is essential that the physician or nurse be sure these facilities are available prior to the opening of camp. Where quarters have not been provided for an infirmary, it is suggested that space be arranged apart from the living quarters,

and preferably in quiet surroundings. The number of beds needed will depend upon the number of campers, their age and sex, duration of stay, and whether the camp is serving handicapped children. One bed to 15 campers is suggested as a minimum. Furniture should be simple, easily cleaned, and consist only of the necessary items.

BASIC EQUIPMENT AND SUPPLIES FOR AN INFIRMARY

3 enamel wash basins
1 irrigating can and assorted tips
2 kidney basins (curved)
2 bed pans
sterilizer for boiling equipment
2 bulb syringes
2 hot water bottles
2 large rubber sheets
2 small rubber sheets
1 tourniquet
paper cups
wooden tongue depressors
wooden applicators
1", 2", and 3" bandages
triangular bandage
½", 1", and 2" adhesive (water proof)
3" x 3" sterile gauze compresses
band aids
sanitary pads and belts
yellow and white soap
sterile absorbent cotton
1 hemostat
1 nail scissors
2 bandage scissors (one large—one small)
1 scalpel with blades
½ dozen bulb pipettes
½ dozen test tubes
glass slides
1 thumb forceps (toothed)
1 tweezers (needle point)
4 medicine glasses
2 medicine droppers
Luers syringes—1 c.c. and 2 c.c.
20 c.c. syringe for convalescent serum
hypo needles (different sizes)
suture material and suture needles
needles (for removal of splinters)
safety pins
alcohol lamp
splints (different sizes)
flashlight
dishes, eating utensils, etc.
necessary linen
height and weight scale
American Red Cross First Aid textbook
alcohol 70%
tincture of green soap
tincture of iodine 3½% and/or 2%
mineral oil
milk of magnesia
Aspirin (Gr. V)
sodium bicarbonate tablets (Gr. V)
calamine lotion with phenol 1%
ampules of tincture of iodine
aromatic spirits of ammonia
boric acid crystals
magnesium sulfate crystals
paregoric
phenobarbital tablets (Gr. ½)
ointment for burns
5% sulfathiazole ointment (ophthalmic)
yellow oxide of mercury 1% (ophthalmic)
boric acid ointment
inhalation compound (Tr. benzoin base)
larkspur or kerosene
ammoniated mercury ointment 5%
adrenalin ampules
cocoa butter
talcum powder
cold cream
salt
vaseline
penicillin and sulfa preparations on suggestion of physician

REFERENCE

1. Recommended Practice for Design, Equipment, and Operation of Swimming Pools and Other Public Bathing Places. An Official Report of the A.P.H.A., 1942 (new edition in press).

MILTON I. LEVINE, M.D., Bureau of Child Hygiene, City Health Department, New York, N. Y., *Chairman*
HELEN LEIGHTY
L. B. SHARP

Community Organization for Health Education*

Public Health Education Section

THIS committee is successor to the old Committee on Community Organization for Health Education which went out of existence after publishing a report under the same title in 1941, based upon a study of communities which had developed particularly successful organization, between public health, school health, and voluntary health agencies. That report had three reprintings and was distributed in the number of 15,000 copies. It had not seemed wise to seek further reprints of such an old report and the present committee was appointed in 1946, to explore the desirability of further studies, reports, or Section activities in this field.

About 100 members of the Section indicated on post cards that they preferred to work with this committee. There was a discussion of the whole problem at the 1947 A.P.H.A. meeting. The attached questionnaire was sent to the whole committee in April, 1948. The replies were summarized and reviewed by the Chairman with the assistance of Vivian Drenckhahn and Aubrey Mallach. The following report summarizes the thinking of the committee.

I. The following types of community organization were mentioned in committee discussions and on questionnaires. (The phraseology here used is that of a formal paper presented by the Chairman at the 1948 A.P.H.A. meeting on "Health Education and Community Organization.")

Local level:

1. A school health council in which professional people in health and in education join with lay people in planning for health promotion, but restrict their activities to problems of school health.

2. The health council or health education committee of official agencies through which departments of local government, concerned with health, coördinate their health education and sometimes other health activities.

3. The health council of voluntary and official health agencies, established either independently or as a health division of a council of social agencies where official and voluntary health activities are planned and coördinated in the absence of the groups which are consumers of health service.

4. The health council representing official and nonofficial health agencies and also other civic or health-consumer groups, who work together in planning and developing health activities.

5. The health council made up of lay individuals and lay organizations only, which plan and promote health activities with the aid of official and unofficial health groups, bringing in professional consultants to aid in their discussions as necessary.

6. Welfare councils of lay and professional groups similar in composition to group 4, but organized to consider all problems related to the public welfare.

State level:

1. A state health council representing only the official agencies.

2. A state health council representing both official and voluntary state-wide health agencies.

3. A state health council representing official and voluntary health agencies together with lay and civic groups, the scope of which tends to broaden.

National level:

1. National conferences of official health agencies, like the Surgeon General's Conference and the Conferences of State and Provincial Health Officers.

* Report of the Committee.
COMMITTEE ON HEALTH EDUCATION AND COMMUNITY ORGANIZATION.
Organized 1946.

2. The National Health Council, made up primarily of the national voluntary health agencies.

3. The National Conference for Coöperation in Health Education, made up of national official and voluntary groups in health and in education, and concerned only with health education problems.

4. The National Committee of Health Council Executives, made up of the executive officers of local health councils, for a consideration of council programs and methods.

5. The occasional conferences of specialists and representative groups called by the national government, like the recent National Health Assembly and the various White House Conferences on specific health problems.

II. The committee suggested several references to books and papers on the subject of Community Organization. The most pertinent and helpful were:

1. American Public Health Association. *Community Organization for Health Education.* New York, 1790 Broadway, 1941, 120 pp. (This report is now out of print, but it has been widely distributed.

2. Federal Security Agency. *The Nation's Health—A Ten Year Program.* Washington, D. C., 1948. (pp. 179–186 deal with Community and State Planning. It is expected that a special publication will be issued on this subject.)

3. National Health Council. *Stepping Stones to Health Councils,* 1948, 30 pp.

4. Association for the Study of Community Organization. *Community Organization,* 60 Farnsworth Avenue, Detroit 2, Mich. 1947. 28 pp. (25 cents.)

5. Iowa Community Development Workshop. *Guides for Building Communities.* Des Moines Community Development Committee, Iowa Council for Better Education, 415 Shops Building, Des Moines, Iowa, 1947. (Mimeo. 31 pp. 25 cents.)

6. Washington State Department of Health. *Health Councils for Washington.* Smith Tower, Seattle, Wash., 1947. 11 pp.

7. Michigan Council on Adult Education. *Organizing a Community Council.* Lansing, Mich. Superintendent of Public Instruction, 1944. 22 pp.

III. Several problems were suggested for committee discussion and considered, namely:

a. The relationships of official agencies
b. The desirable nature and extent of lay participation
c. The functions of the health educator in community organization
d. How to organize a community
e. The coördination of voluntary health agencies
f. Hospital participation
g. Education of the public concerning existing agencies
h. How to enlist lay interest
i. The evaluation of health education in the community
j. The relationships of the County Medical Society
k. What are the training opportunities in community organization in schools and colleges
l. How are leaders found
m. How is group interest maintained

IV. The committee mentioned several projects and studies in Community Organization which are under way. However, field contacts and the discussions at the National Health Assembly showed that the projects named by the committee are only a few of those actually under way. For that reason this partial list is not included in the report.

V. Several possible activities were suggested for the committee. Many of these activities, however, are being carried forward by some group at present, as indicated below.

The Committee suggested:

a. The development of an evaluation schedule for Community Organization. (Community Chests and Councils is developing such a schedule and the National Tuberculosis Association is setting up a self-evaluation schedule for Tuberculosis Associations. This schedule, however, includes community relationships.)

b. The development of a Newsletter on Community Organization. (The National Health Council will issue a monthly bulletin, dealing largely with this subject.)

c. Recommendation from the committee to universities that they provide refresher courses for health educators. (This would hardly seem an appropriate function for the Section committee.)

d. A survey of the instruction which health educators now receive and should receive in professional schools regarding Community Organization. (This assignment would seem more appropriate for a new Section committee concerned with this single project and with a membership selected in relation to the project.)

e. A survey of existing community organization with the preparation of community case studies in this field along the lines of the published report of the old committee. (The National Health Assembly reviewed several community projects of this type, and will presumably publish reports concerning them. Other similar projects are being reported in the literature. There is now an Association for the Study of Community Organization. The committee does not believe it desirable to reprint the old report, although it has been very valuable. On the basis of the facts just cited, it seems desirable to await the publication of the reports of the National Health Assembly in order to see whether that together with currently appearing articles meet the need for studying and reporting progress in community organization for health.)

RECOMMENDATIONS

It is recommended:

1. That this committee, which has explored the situation, be discontinued at this time; but that the Section consider one year hence the creation of a committee to undertake a survey and case studies, if enough is not being done in this direction outside the Section.

2. That the Section appoint a committee to study present and desirable instruction in community organization as a part of the training of Community Health Educators.

3. (This recommendation comes from the discussion on community organization by the committee at the 1948 A.P.H.A. meeting as well as being reflected in the correspondence with the committee itself.) That an opportunity for a discussion on health education in relation to Community Organization be provided by the Section at the next annual meeting of the A.P.H.A.

C. E. TURNER, DR.P.H., 120 Broadway, New York, N. Y., *Chairman*

(This report was presented orally at the Section meeting in Boston, November 11, 1948.)

QUESTIONNAIRE

April 5, 1948

To: A.P.H.A. Committee on Community Organization in Health Education

From: C. E. Turner, Chairman
120 Broadway, New York, N. Y.

You will recall that the committee voted at Atlantic City to seek this year to define the problem, to find out what agencies are now at work on problems of community organization and to suggest a specific program for the committee. As a responsible member of the committee, you are asked to contribute your thinking on the following points and to send your reply to the Chairman *not later than one week* from the day you receive this memo.

1. What types of community organization exist which are concerned with health education? The following were suggested:
   (1) A Health Education Committee of health agencies.
   (2) A Health Council of Voluntary and Official Health Agencies.
   (3) A Community Health Council representing both lay and professional groups.
   (4) A Council of Social Agencies (with a health committee) to consider problems of welfare as well as health.
   (5) A Community Council of lay and professional groups to consider all problems related to welfare of the people.

   Please change titles in the above list if needed.
   Will you add any others?
   Will you define them?
2. (a) What agencies on the national level are concerned with community organization in any form?
   (b) What published statements or papers do you know of dealing with health education in relation to community organization?
   (c) What studies in community organization do you know of which are under way?
3. Please suggest five members of this committee to serve as an Executive Committee.
4. Please list below the problems of community organization in relation to health education which you think the committee should consider.
   (Some that have been suggested are (1) The relation of official agencies; (2) Lay participation; (3) The function of the health educator. What are the others?)
5. List the things you think the committee should undertake. (Give your suggestions for committee procedure from this point.)
6. What states, cities, towns, counties or communities in the U. S. have done the best job in community organization for health and health education? (Give the names of responsible persons in each case.)

Planning for Health Education*

Public Health Education Section

THE Committee on Planning for Health Education is an outgrowth of a Committee on Post-war Planning, which was appointed following a meeting of the American Public Health Association in 1945. The first report of the committee brought to the Section the areas of content in which planning would need to take place following the war. To implement this overall program of content, as it was given in 1946, the committee presented to the Section in 1947 an estimate of the number of personnel that would be needed to carry out an adequate program over the nation. This estimate was based first on a uniform standard of one health educator to each local health department, proposed by the Committee on Local Health Units for the Nation, and one additional health educator for each 100,000 personnel in jurisdictions serving over that number, and estimates submitted by as many of the states as were willing to project plans for carrying on their health education program.

The committee is very much gratified to see that some of its proposals are being accepted by the profession and are appearing in printed statements by other groups in the public health profession. For example, the new Report of the Committee on Professional Education on the *Qualifications of Community Health Educators* summarizes the estimates of personnel as given by the committee report of 1947. Also, in the Report to the President on *The Nation's Health—A Ten Year Program*† will be found the following paragraphs:

> An extension service for health, comprising health educators attached to local, State, and Federal health agencies, could perform invaluable service in helping communities and States to organize citizen health councils. Such a service, I believe, would do much to assure the success of the national program for better health and to help communities make good their deficiencies in resources and coördinate their health services.
>
> As a Nation we would probably need one health educator for every 50,000 population—a total of some 2,800 workers. Voluntary agencies and schools will need hundreds more. We should be able to train enough workers for effective extension services in considerably less than the next 10 years if we move promptly and forcefully toward this end.

In addition, the material on local health units indicates that the following personnel are essential to effective local public health organization:

1 full-time medical health officer per unit
1 additional full-time public health physician for each 50,000 population
1 full-time nurse for each 2,000 to 5,000 population
1 sanitarian for each 15,000 population
1 health educator for each 50,000 population
1 clerical worker for each 15,000 population

Additional professional and technical workers for each of the special programs, in the ratio of one per 50,000 population, except that dentists, dental hygienists, veterinarians, and laboratory workers would be employed full time only in units that served at least 150,000 persons.

The acceptance of these estimates of the committee are gratifying, and encourages us to continue in our work of developing material that may be useful

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* Report of the Committee.
COMMITTEE ON PUBLIC HEALTH EDUCATION PLANNING.
Organized 1945 as Post-war Planning in Public Health Education.

† By Oscar R. Ewing, Federal Security Administrator.

in pushing forward satisfactory goals in public health education.

In addition to the preparation of these estimates, in 1947, the committee explored new areas in which planning was needed. As a result of that exploration, six new subcommittees were formulated to work on the several areas considered important. The first subcommittee was asked to obtain data from the 19 states that had not reported at the time of the 1947 Annual Meeting of the Association, and thus make the final estimates more realistic. The second was to explore the types of personnel that are needed in various population units and administrative groups. The third was a committee on the philosophy of health education. It was asked to prepare answers to such questions as these: "Toward what are we moving in health education? Is our conception too narrow? How can we plan for future needs in the broad realm of human welfare?" The fourth was to study what types of personality traits are needed in health educators. The fifth was asked to propose a minimum salary schedule for various health education personnel. The sixth was to develop proposals that would aid in the maintenance of a high caliber of personnel in the field, and was asked to consider such problems as salary, recruitment, undergraduate programs, and how can the health educator's job be made more satisfying.

During the year, these committees have been busy—some more energetically than others.

There is published elsewhere in this issue, the first report of the Subcommittee on Salary for Health Education Personnel, which has been accepted and adopted by the committee. We recommend its adoption by the Section Council. The Subcommittee on Personnel has developed one questionnaire and is in the process of revising that questionnaire in order to send it to official health agencies, official education agencies and voluntary health agencies. It is believed that the material from this questionnaire will give us valuable data in understanding our future needs in health education.

The report of the subcommittee, on the types of personality that health educators should have, submitted a report. The committee did not find its actions fruitful, and it is recommended by the overall committee that this subcommittee be abolished, with thanks, for their exploratory efforts.

The committee on securing further data from the states was unsuccessful in obtaining replies from any other than the 29 states from which we had already heard. Therefore, this committee has been discharged with thanks.

The Committee on General Philosophy has done some careful thinking but is not ready to report. It is hoped that they can continue during the coming year, and that a very substantial report may be obtained from them in 1949.

Following these committee reports, those present at the committee's meeting were asked to explore additional areas of planning. Four new areas were suggested. They are:

1. What is being done in organized field training for apprentices, externs, aides, etc.? What is desirable in this field, and how can field work be offered when schools are in session?
2. Evaluation of health education
3. How to interpret what health educators do, to the public health staff and to others
4. Standardization of job nomenclature and job descriptions for each named job

It is proposed to set up four new subcommittees to work on these new subject areas. The members who were present at the session were asked to indicate on which of these subcommittees they would like to work, and to volunteer if they were interested. Over half of those present volunteered to serve on one or more of the committees.

It is the recommendation of the Committee on Planning for Health Educa-

tion that it be permitted to continue its work along the lines indicated in this report, and that the membership be informed of the areas of planning in which the committee is active. It is also recommended that the membership be invited to participate in drawing up the reports for 1949 on the areas of planning that have been suggested.

The Chairman wishes to record to the Section Council his appreciation for the splendid work that has been carried on by a large number of the members of the Section.

MAYHEW DERRYBERRY, PH.D.,
U. S. Public Health Service,
Washington, D. C., *Chairman*

Proposed Levels of Recommended Starting Salaries for Six Grades of Positions for Community Health Educators*

Public Health Education Section

THE Subcommittee on Salary for Health Education Personnel is a subdivision of the Committee on Health Education Planning of the Public Health Education Section, American Public Health Association. The Subcommittee was created at the 75th Annual Meeting in Atlantic City, N. J., October 7, 1947.

Members of the subcommittee who have served during the reporting year, are: Mayhew Derryberry, Ph.D., Washington, D. C.; Catherine Dees Hidy, M.P.H., Little Rock, Ark.; Rosemary M. Kent, Chapel Hill, N. C.; Edith R. Lindly, M.P.H., Fresno, Calif.; S. Elizabeth Lovell, M.S.P.H., Chapel Hill, N. C.; and Alfred K. George, M.D., Cincinnati, Ohio, *Chairman*.

The subcommittee, in an effort to correlate efficiently its activities with the work done by other A.P.H.A. committees in related fields, has frequently been in contact with the Committee on Planning for Health Education (*Chairman:* Mayhew Derryberry, Ph.D.), the Subcommittee on Salary Study of the Committee on Professional Education (*Chairman:* William R. Willard, M.D.), and the Subcommittee on Investigation of Types of Health Education Personnel (*Chairman:* William Griffiths). The fine coöperation of these committees has been stimulating and very helpful to the activities of the Subcommittee on Salary for Health Education Personnel.

This report deals with the general salary situation concerning community health educators and especially with the consideration and fixation of appropriate levels of starting salaries. The report contains various pertinent recommendations and in particular it includes the tentative draft of a minimum salary scale for six grades of positions for community health educators. Classifications and qualifications to be required for these positions are indicated accordingly.

The report does not include considerations and suggestions relative to the salary situation of school health educators nor of various specialists working in the field of health education as writers, editors, public relations officers, research analysts, librarians, audio-visual specialists, exhibit designers and technicians, photographers, and others. However, the question of what should be the range of salary for health education personnel of these types not covered in this report is certainly of great concern to the Subcommittee on Salary for Health Education Personnel. Therefore, it seems advisable to discuss this matter and report on it in the near future.

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* Revised Report.

SUBCOMMITTEE ON SALARY FOR HEALTH EDUCATION PERSONNEL OF THE COMMITTEE ON HEALTH EDUCATION PLANNING.
Organized 1947.

THE EXISTING SALARY SITUATION AND THE IMPORTANCE OF APPROPRIATE SALARIES

The existing salary situation as it concerns public health workers and in particular public health education personnel has been reviewed carefully. In this respect, information transmitted by William R. Willard, M.D., of the Subcommittee on Salary Study of the A.P.H.A. Committee on Professional Education (William P. Shepard, M.D., *Chairman*) was highly beneficial. Another valuable contribution was made by Robert O. Yoho who circulated a questionnaire requesting the salaries of presently employed health educators. A third instructive source of knowledge was the survey on "Salaries of State Public Health Workers," published by the Federal Security Agency, U. S. Public Health Service, in February, 1948. Sincere thanks are expressed to the *American Journal of Public Health* and its esteemed Editor, Professor C.-E. A. Winslow for the publication of excellently selected informative material, presented so thoughtfully and efficiently in the *Journal's* section "Clearing House on Public Health Salary Information."

Without doubt, most salary surveys and salary schemes of more recent dates, with the possible exception of the federal payment system and a few others, indicate clearly the considerable underpayment of health educators. Apparently, it cannot be stated ardently enough again and again that careers in public health, including the field of public health education, would be much more attractive to many able individuals if these men and women would receive really adequate salaries.

In order to change the present detrimental situation and in an effort to explain the conditions so that things might be better understood by the public, it seems appropriate and timely to use some additional comparative methods of presentation. Salaries paid to health educators and to other public health officials should be compared with selected salary and wage scales for members of other professions and occupations including labor, without being too critical even of seemingly very generous wage scales. Such an endeavor would be of great benefit to public health educators as well as to other public health groups in their highly justified struggle for much needed improvement in their economic conditions.

THE FIXATION OF APPROPRIATE SALARIES

The fixation of appropriate salaries depends upon many factors, such as: general salary policies of the agencies concerned; the structure of general and special salary schemes; salary levels of certain other employees, in particular various public health workers, teachers, and social workers; the financial ability of agencies employing public health personnel; the power of taxation and the degree of taxation; the stability and the purchasing power of the currency; the general price and rent situation; and, in addition to a number of other factors, the public opinion acting as a forceful power if molded on the basis of accurate and skillfully imparted information of the public.

As to the question of remuneration, it might be generally advisable not to speak of salary increases at all but instead of salary adjustments as necessitated mainly by the effect of the formidable decrease of the purchasing power of the dollar and the effect of taxation on the amount of the "take home pay."

It is beyond the scope of this report to present complete model salary schemes covering such items as ascending salary ranges, salary increments, promotional increases, travel allowances, vacations with salary, retirement plans, etc. This report aims to show that, in order to combat underpayment, careful consid-

eration must be given in particular to the determination and specification of suitable levels of minimum starting salaries for the various groups of community health educators. In this connection it might be stated that, judged from a general as well as an individual standpoint, the most important salary level is that of the minimum starting salary of the beginner.

Considering the fact that the average weekly (40 hour) income of the 13,200,000 production workers in the nation's manufacturing plants increased to about $54 in August, 1948, and in view of wages for bricklayers amounting up to $3.65 per hour in September, 1948, it seems inadvisable and detrimental to the group to recommend an amount less than $3,600 as minimum starting salary for community health educators with M.P.S. degrees.

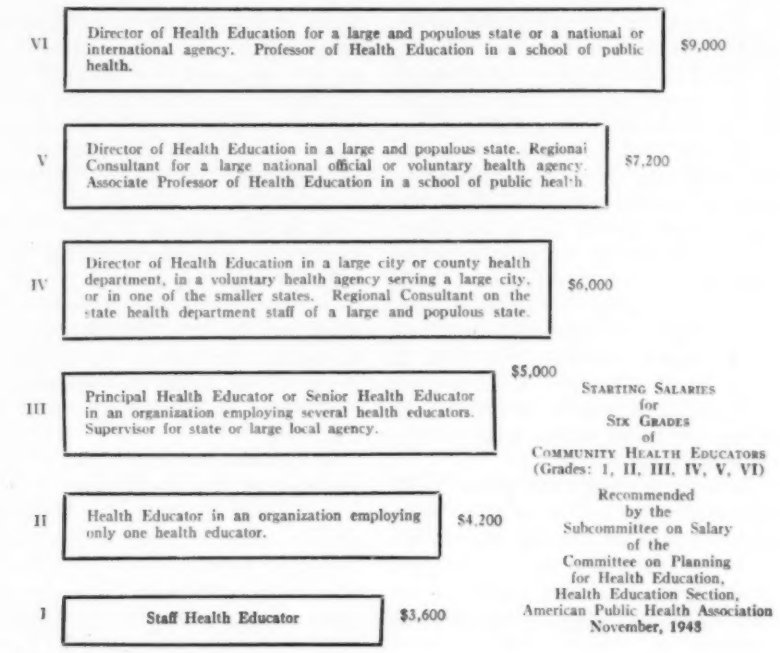
RECOMMENDATIONS OF SIX GRADES OF POSITIONS FOR COMMUNITY HEALTH EDUCATORS AND OF CORRESPONDING LEVELS OF MINIMUM STARTING SALARIES

Six grades of positions for community health educators are suggested in this report: Grades I, II, III, IV, V, and VI.

The corresponding minimum starting salaries are proposed at the following levels: $3,600 for Grade I, $4,200 for Grade II, $5,000 for Grade III, $6,000 for Grade IV, $7,200 for Grade V, and $9,000 for Grade VI.

Starting salaries above $9,000 should be considered for eminent positions of very heavy responsibility and for leading positions in areas of high-cost living conditions. Classifications including accurate job descriptions, corresponding grades of positions, and recommended starting salaries are indicated in chart.

CHART I


VI
Director of Health Education for a large and populous state or a national or international agency. Professor of Health Education in a school of public health.
$9,000
V
Director of Health Education in a large and populous state. Regional Consultant for a large national official or voluntary health agency. Associate Professor of Health Education in a school of public health.
$7,200
IV
Director of Health Education in a large city or county health department, in a voluntary health agency serving a large city, or in one of the smaller states. Regional Consultant on the state health department staff of a large and populous state.
$6,000
$5,000
III
Principal Health Educator or Senior Health Educator in an organization employing several health educators. Supervisor for state or large local agency.
II
Health Educator in an organization employing only one health educator.
$4,200
I
Staff Health Educator
$3,600
GRADES
STARTING SALARIES for SIX GRADES of COMMUNITY HEALTH EDUCATORS (Grades: I, II, III, IV, V, VI)
Recommended by the Subcommittee on Salary of the Committee on Planning for Health Education, Health Education Section, American Public Health Association November, 1948

RECOMMENDED QUALIFICATION REQUIREMENTS FOR SIX GRADES OF COMMUNITY HEALTH EDUCATORS (GRADES I, II, III, IV, V, AND VI)

GRADE I: Graduation from an accredited school of public health with a major in health education; no experience since graduation.

GRADE II: Graduation from an accredited school of public health with a major in health education and at least 1 year of experience as a health educator.

GRADE III: Basic qualifications as stated above and at least 3 years of experience as a health educator.

GRADE IV: Basic qualifications as stated above and not less than 5 years of experience as a health educator.

GRADE V: Basic qualifications as stated above, 6 to 10 years of experience as a health educator and as an administrator or as a supervisor of a health education program for a large population group.

GRADE VI: Basic qualifications as required for Grade V but not less than 10 years of outstanding and successful experience in local and state or national organizations and/or teaching experience in health education acquired preferably in a school of public health.

SPECIAL PROVISIONS FOR THE SUBSTITUTION OF QUALIFICATION REQUIREMENTS

It is obvious that special provisions relative to qualification and classification must be made in favor of those men and women who have been active in health education successfully for years without possessing graduation requirements that are proposed for respective positions at this time. In order to cover the qualification of individuals as identified above, it is considered necessary to incorporate into the classification and salary scheme a special mandatory clause, as follows:

"Graduation from an accredited school of public health with a major in health education is not held a required qualification for persons who have already been active in the field of health education for years (health education 'pioneers')."

Numerous individuals who are well known in health education, and among them many who are prominent in this field, possess Master degrees and other than degrees with a major in health education and/or Doctor degrees of various kinds. In order that there might be no doubt about the qualification and classification of these persons, the following special clause as an integral part of the proposed classification and salary scheme seems necessary:

"Master degrees other than degrees with a major in health education, and Doctor degrees as degrees of Ph.D., Ed.D., Dr.P.H., M.D., D.D.S., D.V.M., Dr.Eng., and Sc.D. are considered full qualifications for persons with additional experience and reputation in the field of health education."

RECOMMENDED MINIMUM STARTING SALARIES FOR ASSISTANTS (AIDES, APPRENTICES) IN COMMUNITY HEALTH EDUCATION

There are a number of recent graduates with Bachelor degrees in health education who are working in the field of community health education, individuals who are expected to serve more or less in the capacity of assistants, aides or apprentices in community health education rather than as full-fieldged workers with independent responsibility for the program in health education. Generally, minimum starting salaries of $3,000 for this group seem reasonable.

ACKNOWLEDGMENT—The Chairman of the Subcommittee on Salary for Health Education Personnel wishes to express his sincere appreciation and thanks for the excellent cooperation and support given him by the members of his committee.

ALFRED K. GEORGE, M.D., University of Cincinnati, College of Medicine, Department of Preventive Medicine, Cincinnati, Ohio, *Chairman*

Public Health Films*

Public Health Education Section

DURING the past year a Subcommittee of the Committee on Public Health Films (Public Health Education Section) has been exploring needs in the health field with a view to suggesting practical solutions.

Examination of the field indicates the lack of any central intelligence to assemble and disseminate information on health films. It has shown the need now for the establishment of a National Service or Agency with sufficient funds, personnel, and prestige to play an effective part in promoting the production of better health films and a better use of health films.

Specifically the subcommittee recommends:

1. The establishment of a beginning program of health film reviews in the American Journal of Public Health for which detailed recommendations have been prepared. This project is approved to be started as promptly as possible and without waiting for the establishment of Section II of this program.
2. The establishment of a Health Film information and coördination service under the auspices of a National Health Agency, which would:
   a. Establish a clearing house for all health film projects.
   b. Collect and disseminate information on health films.
   c. Promote the publication of health film catalogs.
   d. Promote the wider appreciation of the movies as an important means of education and encourage research in this field.
   e. Promote the establishment of reference film libraries and information centers on a regional basis.
   f. In general, keep in touch with the needs of the health film field, make these needs articulate and sponsor sound health film development.

SUBCOMMITTEE ON PROGRAM DEVELOPMENT

KENNETH D. WIDDEMER, 15 Meadow Ave., Bronxville, N. Y., *Chairman*

SALLIE BRIGHT
HOMER N. CALVER
E. R. COFFEY, M.D.
HELEN CROSBY
JOHN W. FERREE, M.D.
H. E. KLEINSCHMIDT, M.D.
T. SPENCER MEYER
THOMAS C. STOWELL

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* Report of the Chairman.
COMMITTEE ON PUBLIC HEALTH FILMS.
Organized 1946. Published report: *Year Book*, 1947–1948.
Approved by the Public Health Education Section.

School Health Section*

DURING the past year your officers have given particular thought to ways of making the Section better serve the needs of its members. We believe that the annual meetings need to be augmented by some plan of year around working on problems and sharing of experiences which will reach every member, not just those fortunate enough to get to an annual meeting. Such a plan is not easy to work out. We have over 300 members scattered across Continental United States, the territories, and in other countries; and our members consist of a number of professions engaged in every aspect of service to children of school age. On the other hand, we have a community of interest and an eagerness to improve our understanding and skills which we believe will serve to overcome the difficulties. As a step toward better understanding of our needs, I have done some analyzing of the membership to find out what kind of people we are professionally, what kinds of jobs we have in school health, where we work, and who employs us.

MEMBERSHIP OF THE SECTION

There are now some 334 members in the School Health Section, an increase of about 50 in the past year. We have members in 37 states, the District of Columbia, Alaska, Hawaii, Puerto Rico, and also in Canada, Holland, China, and India. The distribution of the membership shows a concentration in the more populous states as would be expected, but 11 of our states have no members at all and 15 states have only one or two members. This would seem to indicate that large sections of the country are being less influenced by the work of the Section than we would like. We have 46 Fellows. Their numbers are too few and the distribution is too uneven to make for a really representative group from which to choose the leadership of our Section.

GEOGRAPHIC DISTRIBUTION OF MEMBERS

Largest	New York	77
	California	44
	Pennsylvania	21
	Massachusetts	17
	Illinois	14
	Ohio	14

No members in 11 states—Vermont, New Hampshire, Delaware, Alabama, Mississippi, Arkansas, New Mexico, Wyoming, North Dakota, Idaho, or Nevada.

In the states with larger number of members some attempt was made to determine the proportion of members in metropolitan and the more rural sections of the states. Of the 77 New York members, 52 are in New York City, and 26 are in upstate New York. In California, 18 are in metropolitan areas, and 26 outside the metropolitan centers. In Pennsylvania, 9 of the 21 are in Philadelphia or Pittsburgh, and the remaining 12 are elsewhere in the state. In Massachusetts and Illinois, most members are outside the metropolitan centers. In general there are somewhat more members outside metropolitan centers than in them.

The location of the Fellows is shown to be concentrated in New York and California.

TYPE OF SERVICE BEING RENDERED BY MEMBERS OF THE SECTION

Analysis was made of 296 members, on whom sufficient data are available. Thirty-eight were listed as students and

* Report of the Chairman.

others whose positions were not indicated on the membership list.

Physicians Rendering Health Services to Children of School Age Constitute the Largest Group—84, or 28 per cent—Direct Services, 66; Administration of School Health Services, 18.

Nurses Engaged in School Health—58, or 20 per cent—Includes direct service and supervision.

The two Health Service groups combined account for about 50 per cent of the membership.

Teachers—68, or 23 per cent—Of these teachers, about two-thirds are engaged in teaching in universities and colleges, and one-third are in public school systems. About two-thirds are teaching Health Education or Physical Education and Health Education combined.

Consultants—Coördinators—50, or 17 per cent—Consultants in Health Education constitute the largest single group with consultants in school health administration, school nursing, education of the physically handicapped being reported also.

Administrators—Exclusive of School Health Administration—36, or 12 per cent—These administrators are engaged in a great variety of activities and include superintendents of schools, health officers, directors of maternal and child health of state and city departments of health, state directors of physical education and administrators of voluntary health agencies.

Who employs our members?

Local School Departments		114	39%
Elementary, Secondary, and Private Health Services	78		
Cities	34		
Rural	44		
Teachers	17		
Administration	14		
Consultants	5		
State Departments of Education		12	4%
Consultants	8		
Administration	4		
Federal Government		3	
Office of Education	2		
U.S.P.H.S.	1		
Colleges and Universities		63	21%
Total Employed by Educational Institutions		181	65%
Local Health Departments		54	18%
Health Services	42		
Cities	30		
Rural	11		
Administration	11		
Consultants	1		
State Health Departments		19	7%
Consultants	14		
Administration	4		
Voluntary Health Agencies		31	
Total Employed by Health Agencies		104	35%

What may we conclude from this for our guidance in planning future work of the Section?

1. We need to increase our membership particularly in those sections of the country not now represented. This would seem particularly important as these are the more rural sections of the country where school health services are least well developed and where the need is greatest.

2. We need to increase the number of Fellows in the Section to make possible a more representative group from which the Section may choose its leadership.

3. The Section membership now is made up of persons serving in nearly all aspects of school health—health services, both direct and administration, teachers, consultants and in the general fields of health and school administration, and in many important voluntary health agencies. We do not in this Section have engineers or others primarily concerned with school environment, an important field, and we have far too few teachers and administrators in the elementary and secondary fields. With the ever increasing recognition of the important rôle in all aspects of school health played by the teachers, it is clear that we should have more of them in our Section and would welcome them.

4. A significant fact is that local schools employ more of our members than any other agency. In program planning and selection of leadership in the Section, this should be borne in mind.

5. For those specialists who have important contributions to make to the improvement of the school health program, such as those in the fields of rheu-

matic fever, epilepsy, auditory and visual defects, and other handicapping conditions, dental health, nutrition, emotional health, and social work, we need to look to other Sections in the A.P.H.A. and to groups outside the Association for help.

One of the fine things about being a part of a great organization such as the A.P.H.A.—with its wealth of membership in all the health fields—is that we may call upon them to help us solve our problems. Every Section has a contribution to make to the field of School Health. On the other hand, we have an opportunity and an obligation to influence the thinking of those in the other Sections—to keep them abreast of modern thought and developments and special problems in our field. During this past year, our Legislative Committee, of which Dr. Baumgartner is chairman, has been active. She will report to you. Our excellent Secretary, Sol Lifson has kept you informed of developments through the newsletter. The program of this annual meeting was arranged by him to deal with the special interests and problems which you indicated in your responses to his newsletter request. On Monday evening, your Section Council met to consider ways of making the Section more helpful to all our members on a year round basis. Authorizations were given for two working committees. One, a committee to study text materials used by schools in the health fields such as general science, home economics, hygiene, physical education, and family life. It was specified that this committee be so organized as to involve as much of the Section membership as possible.

It was also authorized that the Section set up a joint committee with one from the American Association of Health, Physical Education and Recreation, to help publishers clear the health content of textbooks to be used in the schools.

The second committee authorized will make a study of Health Service Records and statistics including methods of collecting the kind of data, which will be of value in evaluating those services and conducting field tests. Other action taken by the Council was authorizing a joint committee with the American Association of Health, Physical Education and Recreation to evaluate the School Health Materials submitted from all parts of the country in connection with the Health Exhibit. The Section owes a very special debt of gratitude to Miss Marjorie Craig for the outstanding job she has done in making this material available at this meeting.

Our Section was authorized to send a letter to the Executive Board requesting appropriate action on the part of the A.P.H.A. in urging the Federal Security Administrator to call a National Conference on School Health as recommended by the Committee of the National Health Assembly.

At the Section Council meeting, two resolutions were formed for submission to the Resolutions Committee.

JESSIE M. BIERMAN, M.D., University of California, School of Public Health, Berkeley, Calif., *Chairman*

Membership and Directory

Statistics Section

SINCE the last annual meeting, the committee has, with the coöperation of key people in each state, compiled a *Directory of Public Health Statisticians*. This *Directory* was published in October and mailed to all members of the Statistics Section.

The new *Directory* contains 1,313 names as compared with 885 included in the third edition of the *Vital Statistics Directory* published in 1945. Included are members of the American Public Health Association as well as non-members.

Letters were sent to 680 non-members listed in the *Directory of Public Health Statisticians* and 43 paid applications for membership in the American Public Health Association were received to date. Other efforts to recruit new members were made by sending invitations to individuals on the roster of a professional organization and this resulted in 30 paid applications.

Although there was a significant number of lapsed memberships by the middle of the year, the recruitment program has brought the membership of the Statistics Section to the highest point in its history. On November 1, 1948, the membership of the Section totaled 464, of which 392 were members and 72 were Fellows. On September 1, 1947, the membership total was 410, 342 members and 68 Fellows.

The total membership of the Statistics Section ranked 10th among the Association's 12 Sections in 1947 but it has now moved up to 8th place in the rank order.

COMMITTEE ON MEMBERSHIP AND DIRECTORY

IWAO M. MORIYAMA, PH.D., National Office of Vital Statistics, Washington, D. C., *Chairman*
MARJORIE T. BELLOWS
CLARA E. COUNCELL, PH.D.
MARGUERITE F. HALL, PH.D.
ELLIOTT H. PENNELL

Opportunities in Statistical Work*

Statistics Section

THE purpose of the Committee on Opportunities in Statistical Work and a plan for its activities were stated in the report submitted by the Committee to the Vital Statistics Section of the American Public Health Association on October 6, 1947.

A meeting of the committee was held in New York City on April 9 and 10, 1948, to plan in more detail the work of the committee. A report of this meeting follows:

REPORT OF MEETING IN NEW YORK, APRIL 9–10, 1948

Full membership of the committee was present: Ellen W. Jones, *Chairman,* Dr. Paul M. Densen, and Dr. Margaret Martin. In addition, two invited guests joined the group in the afternoon of the 9th for a discussion of recruitment of and field training for potential statisticians. The guests were: Dr. E. C. Hammond, Statistician, American Cancer Society; and Marjorie Bellows, Statistician, American Heart Association.

The major business of the meeting was concerned with the preparation of a pamphlet on careers in public health statistics. It was agreed that the pamphlet should be inspirational in tone and should be worded so as to be useful for recruiting personnel in universities, colleges, and, possibly some senior high schools. It should contain very definite information, however, on what kinds of jobs exist, where they are and the general range of salaries available for positions at various levels of responsibility. The pamphlet should direct the reader to the proper sources for obtaining specific information on these subjects. In addition, the committee felt that it would be desirable to include a statement indicating the educational qualifications needed by individuals wishing to begin a career in the field of public health statistics. Specific requirements could not be given in view of the present lack of uniformity in specifications for jobs in the various official and private agencies employing statisticians. At the same time, the pamphlet should set forth the important components of undergraduate training, and the importance of obtaining practical field experience before taking graduate training. These recommendations should, of course, be in line with those of the Subcommittee on Educational Qualifications of Personnel in Vital Statistics and Vital Records of the Committee on Professional Education.

Other subjects discussed in connection with the pamphlet were distribution and financing. Channels of distributions which were discussed briefly were as follows. Undoubtedly others should be considered also.

State health departments
Federal Civil Service
State civil service systems
Teachers of statistics, mathematics, and the social sciences
"Deans of Students" or "Deans of Junior Colleges" in colleges and universities
Libraries in colleges and universities
Vocational guidance officers in schools
U. S. Office of Education

At the time of this meeting, the com-

* Report of the Committee.
COMMITTEE ON OPPORTUNITIES IN STATISTICAL WORK.
Organized 1946.

mittee was advised that funds available through the Committee on Professional Education, which is publishing the entire series of vocational pamphlets, were extremely limited; and if anything more ambitious than a four page leaflet, without illustrations, were desired, then funds should be sought elsewhere. After considerable discussion of the aims of the Statistics Section in publishing the pamphlet, there was some indication that one of the voluntary agencies might be willing to finance the job. This was not pursued further at the time because of the fact that the overall budget of the Association was currently undergoing revision and it was considered advisable to postpone individual requests until this matter was settled. It is hardly necessary to say, however, that the question of financing publication of the pamphlet should now be pushed without delay.

Subsequent to the committee meeting, a tentative outline of the text and a dummy copy of the pamphlet were prepared and discussed with a New York printer.

At the last meeting of the Statistics Section in Atlantic City it was suggested that the Committee on Opportunities consider a compilation of information on graduate public health courses available to statisticians. Dr. Margaret Martin is now exploring the need for such information and ways and means of obtaining it.

The committee also discussed the need for acquainting vocational guidance officers with the jobs available to statisticians in public health and related fields. (This project was also reported to the Section at the last meeting.) It was the consensus that the effort should be to acquaint selected guidance officers —probably 10 or 12— with the whole field of public health rather than with public health statistics alone. It was suggested that the period of instruction should be of possibly two weeks' duration with one week devoted to lectures and seminars and another to field observation. As a solution to the problem of recruiting more and better public health personnel, this would be a small beginning indeed. But as an experiment in one of the ways of accomplishing the purpose, the project would be most valuable. Although the discussion clarified to some extent the thinking of the committee members on the subject, the project has not been developed further, chiefly for reasons of financing as stated above. The committee believes that this effort should now be given renewed consideration.

Since it impinges on all other topics with which the Committee on Opportunities is concerned, the question of field training for Statisticians was included in the agenda of the April meeting. The discussion related particularly to field training or orientation for potential statisticians entering the public health field. The discussants took cognizance of the fact that individuals just entering the field of public health statistics come from a variety of backgrounds, and that this is wholly desirable. No one type of field orientation would answer the needs of all these individuals; yet all need some type, and it is hoped that the Association will make specific recommendations with regard to this subject. The committee's discussion in April centered particularly on one type of individual, the young college graduate whose academic training included mathematics and statistics, preferably with one or more of the physical sciences, and who has had no work experience in public health. It was agreed that the immediate problem was to get these people trained on the job as rapidly as possible so they could fill some of the many vacancies in statistical positions with some degree of responsibility. It seemed to the group that a combination of supervised work, on the job, and academic instruction of a highly specialized sort (not necessarily

leading to a graduate degree) was the best expediency. The Tennessee Department of Public Health and the Department of Preventive Medicine of Vanderbilt University Medical School jointly worked out such a program which has already been reported to this Section. As a result of the committee meeting in April, the statistics and research section of the American Cancer Society and New York University have begun such a training program. This program is to be reported soon in the Association's *Journal*.

The Committee on Opportunities in Statistical Work contemplates no particular action on the subject of field training, but since this is a subject closely related to that of recruitment of personnel, it feels that it is important to bring it to the attention of the Section and interested individuals on every possible occasion.

At a business meeting of the Statistics Section in Boston, November 9, 1948, the Committee on Professional Standards and Remuneration and the Committee on Opportunities in Statistical Work were terminated. A new Committee on Opportunities and Functions of Statisticians was appointed, to combine with new functions some of the previous activities of these committees.

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Standards and Remuneration*

Statistics Section

THE task originally assigned to the Committee on Remuneration and Standards was that of developing, if possible, a salary scale for professional personnel engaged in public health and vital statistics work. The committee was also charged with the general responsibility of attempting to formulate standards for statistical positions in health departments.

Examination of reports made by other Sections of the Association and discussion with the chairman of the Section's Committee on Opportunities in Statistical Work and of the Committee on Professional Education's Subcommittee on Educational Qualifications of Personnel in Vital Statistics and Vital Records led this committee to the realization that the existing lack of definition of the purpose and function of a statistician in a health department made it almost impossible for the committee to carry out its original assignment.

The committee reached the conclusion that a necessary preliminary to the eventual development of salary scales and professional standards was a survey of the existing situation with respect to salaries, background, duties, and qualifications of public health and vital statisticians. It was felt that information should also be sought on the methods by which present personnel had entered the field because of its bearing on the future development of professional standards and because such information would be of value to the other two committees working in the field.

Accordingly, in the summer of 1947 the committee undertook a survey of the following classes of personnel in state health departments:

1. All personnel classified as statisticians
2. All personnel doing analytical work demanding some knowledge of statistical principles and methodology
3. All personnel engaged in vital records registration at a professional or policy level
4. Other personnel considered by the reporting agency as properly belonging to the statistical group

The questionnaire used in the survey asked for the individual's job title, his remuneration, a description of his duties in his own words, his education; and the particular circumstances which led to his entrance into the field of statistics in general and public health statistics in particular. These data were obtained from personnel in 43 state health departments, largely by a series of direct visits by a representative of the Division of Public Health Methods, U. S. Public Health Service, supplemented by mail questionnaires to those departments which could not be visited.

This report presents the results of this survey. A brief discussion of the classification scheme adopted by the committee is essential before discussing the findings. The classification was made with reference to job descriptions only; jobs which the committee considered to be equivalent in responsibility being grouped without reference to salary or title.* It is desired to

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* The Interim Report of the committee in "Clearing House on Public Health Salary Information," *A.J.P.H.*, Feb., 1948, contains a table showing the multiplicity of job titles.

emphasize the fact that the scale of classification is continuous in nature and that the dividing line between any two adjacent classes is obviously somewhat arbitrary. The decision to place an individual in one or the other of these classes was based upon the majority verdict of the members of the committee after independent examination of the returns. The classification arrived at is as follows:

Group I (Chief Statistician)—Workers in this category are chiefs of a statistical unit engaged primarily in analytical work exclusive of registration activity. In coördination with other activities of the health department they are responsible for the development of a statistical program from the planning stages through the final analysis and presentation of results. They exercise considerable independence of action within the broad policies laid down by the health commissioner.

Group II (Registrar)—Chiefs of a statistical unit engaged primarily in the registration of births and deaths. Responsible for formulation of policy in relation to registration matters and at times for analysis of the registration function but not engaged in analysis with regard to health department activities as a whole.

Group III (Chief Statistician and Registrar)—Chiefs of a combined registration and analysis unit. These combine the duties and exercise the responsibilities of the Chiefs in Groups I and II.

Class A (Assistant Registrar)—Individuals in this group usually function under the immediate supervision of someone in Group II. They ordinarily engage in no analysis but are given considerable responsibility for the routine production of vital statistics and may be directly in charge of a large clerical office. When necessary they may act in the place of the person in charge of the registration unit.

Class B (Senior Statistician)—Under the general supervision of individuals in Group I or Group III they are responsible for analysis of a high order of technical competence demanding a good general knowledge of public health. May consult with chiefs and other personnel of the health department with regard to planning of a study, collection of data, tabulation and analysis of results. Under general supervision only, may initiate studies and exercise considerable independence of action within broad policy lines laid down by the chief. Analytical work not confined to one particular aspect of public health.

Class C (Junior Statistician)—Individuals in this class are usually under the immediate and fairly close supervision of individuals in Class B. They do not confer, except on rare occassions, with chiefs of other divisions. They may supervise a small clerical or tabulating force or be responsible for some tabulating work.

FINDINGS

The Number of Statistical Workers in the Different States (Tables 1 and 2)—

Almost half the states for which returns were tabulated had only one statistical worker, although one state had 16. If Groups I, III, III-B, and III-C are put together and for convenience sake called "analytical" workers, there are 17 states with no "analytical" workers at all.

When the states are ranked according to expenditures for public health in 1947, it is found that of the 70 "analytical" workers, 56 are in the states in the two upper quartiles with respect to expenditure. (It should be remembered here that the data are heavily

TABLE 1

Distribution of States According to Number and Type of Statistical Workers

No. of Statistical Workers	*No. of States*	*Number of States with Various Combinations of Statistical Workers*
1	21	I-1, II-15, III-2, A-1, B-2
2	8	II & B-3, II & C-2, II & A-1, III & C-1, I & II-1
3	7	II, B & C-3, II, A & B-1, II, A & C-1, II & B-1, III & C-1
4	2	I, II & C-1, II, B & C-1
5	2	III, B & C-1, III, A, B, C-1
8	2	II, B & C-1, I, II, B & C-1
16	1	III, A, B, C-1
Total	43	

TABLE 2

Distribution of Statistical Workers in State Health Departments by Type of Worker and by Quartile Grouping of States for Total Public Health Expenditure in 1947

Quartile Grouping of States	Type of Statistical Worker				
	Total	Registrar	Chief Stat. and Reg. or Chief Stat. Only	Sr. Stat.	Jr. Stat.
Upper	47	6	4	23	14
Second	26	11	3	3	9
Third	15	4	4	4	3
Lower	14	11	..	1	2
Total	102	32	11	31	28

TABLE 3

Distribution of Statistical Workers in State Health Departments by Type of Worker and Salary Level

Type of Worker	Total	Salary Level				
		$1,000–1,999	$2,000–2,999	$3,000–3,999	$4,000–5,999	$6,000–7,999
Total	108	2	36	36	31	3
I (Chief Statistician)	4	0	1	1	2	0
II (Registrar)	32	0	5	8	17	2
III (Chief Statistician & Registrar)	7	0	0	1	5	1
A (Assistant Registrar)	6	0	3	2	1	0
B (Senior Statistician)	31	0	6	21	4	0
C (Junior Statistician)	28	2	20	4	2	0

weighted by the returns from 3 states which have 32 of the 108 statistical workers.)

The committee feels that these facts are of considerable significance when taken in relation to the expanding nature of public health as evidenced by the development of cancer programs, rheumatic fever programs, medical care programs, etc. If it be granted that the function of the statistician in the health department is to aid in the definition of public health problems, to suggest points of attack upon these problems and to evaluate the success of the program, then the lack of any "analytical" workers in many of the states represents a serious deficiency in the development of public health programs.

The data in these tables also carry implications for the training of statistical workers. Many of the states in the lower two quartiles have only a registrar at the present time. It is important, therefore, that the registrar have some kind of training in the analytical phases of public health and vital statistics. Even should the state manage to get funds for a separate "analytical" worker, the registrar should have had some training in this field because he will be called upon to work with this "analytical" person and in some cases to supervise him. Conversely, it is desirable that the training of the "analytical" worker include a grounding in the fundamentals of registration, especially because many of the newer public health programs have a registration feature about them.

The committee would also like to make the point that the states which may be able to afford only one well trained statistical worker in the sense used here, have an inducement to offer in the form of a variety and scope of problems which in itself represents a stimulating opportunity. It would be better in this respect to pay a sufficiently high salary to attract one worker of this type, than to attempt to get workers of mediocre ability at a lower salary.

Salaries—

The facts with respect to salaries are set forth in Tables 2, 4, 5, and 6. Very few individuals command a salary of $6,000 or more per annum and the majority are paid salaries under $4,000. The highest salaries are paid to individuals in the registrar group. Of the 31 individuals performing senior statistician work only 4 command a salary over $4,000 and there were 6 individuals in this class receiving less than $3,000 per annum. Furthermore, this low salary scale is not due to a concentration of individuals in the states falling in the two lowest quartiles with respect to

TABLE 4

Distribution of Statistical Workers in State Health Departments by Type of Worker, Salary Level, and Quartile Grouping of States According to Total State Expenditure, Public Health, 1947

	Registrars				*Chief Stat. & Reg. or Chief Stat. Only*				*Senior Statistician*			*Junior Statistician*			
Quartile	*$2000 2999*	*3000 3999*	*4000 5999*	*6000 7999*	*$2000 2999*	*3000 3999*	*4000 5999*	*6000 7999*	*$2000 2999*	*3000 3999*	*4000 5999*	*$1000 1999*	*2000 2999*	*3000 3999*	*4000 5999*
Upper		1	4	1			3	1	2	17	4		10	2	2
Second		2	9		1	1	1		1	2		2	6	1	
Third	1	1	1	1		1	3		2	2			3		
Lower	4	4	3						1				1	1	
Total	5	8	17	2	1	2	7	1	6	21	4	2	20	4	2

TABLE 5

Rank According to Starting Salaries and Top Salaries of Heads of Various Division of State Health Departments by Quartile Grouping According to Total State Expenditures for Public Health in 1947

	Quarterly Grouping of States by Expenditure							
	Starting Salaries				*Top Salaries*			
Rank	*Upper*	*2nd*	*3rd*	*Lower*	*Upper*	*2nd*	*3rd*	*Lower*
1	Lab.	San.	M.S.L.*	Med.	Med.	Med.	M.S.L.*	Med.
2	Med.	Med.	M.S.L.*	San.	Lab.	San.	M.S.L.*	San.
3	San.	Lab.	M.S.L.*	Lab.	San.	Lab.	M.S.L.*	Lab.
4	Fiscal	P.H.E.	Fiscal	Nursing	*Stat.*	Fiscal & P.H.E.	Fiscal	Nursing
5	*Stat.*	*Stat.*	*Stat.* & P.H.E.	P.H.E.	Fiscal	Fiscal & P.H.E.	*Stat.*	P.H.E.
6	Nursing	Fiscal	*Stat.* & P.H.E.	Fiscal	Nursing	*Stat.*	P.H.E.	*Stat.*
7	P.H.E.	Nursing	Nursing	*Stat.*	P.H.E.	Nursing	Nursing	Fiscal

* M.S.L. used to show salaries of medical, sanitary, engineering, and laboratory workers too close to permit separate ranking.

TABLE 6

Median Upper and Lower Salary Limits for State Health Department Positions at Organizational Levels Comparable to Chief Statistician or Director of Vital Statistics by Quartile Grouping of States for Total Public Health Expenditure in 1947

Quartile Grouping of State	*Median Upper & Lower Salary Limits for Directors of State Services*							
	Statistical Registration	*Medical*	*Nursing*	*P. H. Education*	*Sanitation & P. H. Engr'g.*	*Laboratory*	*Fiscal & Adminis.*
Upper	$5020–6575	$5820–7680	$4590–5400	$4560–5280	$5580–6780	$6000–7140	$5305–6480
Second	3930–4860	4650–5730	3650–4320	4200–5100	4896–5664	4500–5400	3900–5100
Third	3900–4710	4800–6000	3480–4200	3900–4500	4800–6000	4800–6000	4320–5400
Lower	3205–3745	5400–6480	3702–4500	3270–3990	4200–5100	4020–4900	3240–3480

TABLE 7

Distribution of Replies to Question: "In what field did you first make contact with statistics in general?" by Type of Statistical Worker

Field	Total	I (Chf. Stat.)	II (Reg.)	III (Chf. Stat. & Reg.)	A (Asst. Reg.)	B (Sr. Stat.)	C (Jr. Stat.)
	108	4	32	7	6	31	28
Social Sciences	41	2	7	4	2	13	13
Courses	34	2	6	4	2	11	9
Employment	7		1			2	4
Mathematics	17		5	2		7	3
Courses	17		5	2		7	3
Biological Sciences	48	2	18	1½	4	11	12
Courses	18		4	1	1	8	4
Employment	30	2	14		3	3	8
Not Recorded	2		2				

expenditures for public health. More than half the individuals doing senior statistician's work in the opinion of the committee are in the states in the two upper quartiles. This illustrates the committee's contention that it is difficult to recommend salary scales until there is a clearer definition of function.

Further evidence on this point is yielded by Tables 5 and 6 in which the salaries of directors of statistical units are compared with those of directors of other services in state health departments. It is noted that medical directors, directors of laboratory services, and sanitary engineering directors jockey for first position for both starting and top salaries. These are the three groups whose function in the health department is pretty well defined and for whom professional standards have been stabilized. The three groups for which standards and function are relatively ill-defined fall at the lower part of the salary scale. Effort must be bent to clarify the place of the statistician in the health department. The committee believes that when this is done salaries will tend to rise and standards will be more meaningful.

Method of First Making Contact with the Field—

Of the 108 individuals for whom the information was available, 41 first made contact with statistics in general through the social sciences, 48 through the biological sciences, and 17 through mathematics (Table 7). However, of those who entered statistics through the social sciences most first learned of the subject through courses of one kind or another, whereas only about one-third of those making contact through the biological sciences did so through the media of courses. So far as the mathematical group is concerned, almost all can be considered as having learned about statistics through courses.

The significance of these facts for public health and vital statistics is twofold. People are not hearing about statistics when they come through the biological side of college work. They have to get out and work for a while and come to it more or less by chance in their employment. But public health, of course, has a considerable biological background. The result is that the people with biological science background tend to come into the field lacking any training in statistics while those who received such training through the social sciences tend to be deficient in biological background. A proper balance of the two is to be desired.

The replies to the question concerning the method of *first* learning about public health or vital statistics also bear out the foregoing points (Table 8). A little more than half of the replies indicated that the individuals learned about public health statistics more or less accidentally. Only 21 learned about the

TABLE 8

Distribution of Replies to Question: "How did you first learn about public health statistics?" by Type of Statistical Worker

Method of First Learning About Field	All Types	Type of Statistical Worker: I (Chf. Stat.)	II (Reg.)	III (Chf. Stat. & Reg.)	A (Asst. Reg.)	B (Sr. Stat.)	C (Jr. Stat.)
Grand Total	*108*	*4*	*32*	*7*	*6*	*31*	*28*
By contact with another person employed in field or allied field	31	1	8	1	3	10	8
By contact resulting from personal employment in field	26		11	2	3	4	6
Through a teacher (not in p.h.) or college employment office	21	1	2	1		12	5
Through courses or a teacher in field of public health	2		1				1
Through reading	7	1	2	1		2	1
Through merit system announcement	10	1	1	1		3	4
Through U. S. Employment Service or State Employment Service	2						2
Employed in Allied Field	4		2	1			1
Not Recorded	5		5				

field through a teacher or a college employment office. This would indicate that the undergraduate student—and more particularly, his teachers and advisers—are not made aware of the field.

The result of this state of affairs is that when individuals do enter the field, a good part of their training is behind them, which results usually in gaps in their training from the standpoint of public health.

Educational Background—

The data in Tables 9 and 10, on educational background on those now in the field, substantiate these conclusions. In 1938 the Committee on Professional Education recommended at least one year of graduate professional education leading to a Master's degree or certificate subsequent to graduation from college and at least 3 months of directed practical public health experience in a recognized public health or other agency. Nearly a decade later the committee's findings indicate that nearly three-fifths of the workers in the field had no graduate public health degree and nearly one-third had no more than an undergraduate degree. These data do not accord very well with the recommendations of the Committee on Profes-

TABLE 9

Distribution of Statistical Workers in State Health Departments by Type of Worker and Highest Level of Education Attained

Highest Level of Education Attained	Total: Number	Total: Cumulative Per cent	Type of Statistical Workers: I (Chf. Stat.)	II (Reg.)	III (Chf. Stat. & Reg.)	A (Asst. Reg.)	B (Sr. Stat.)	C (Jr. Stat.)
Total	108	100.0	4	32	7	6	31	28
High School	4	3.7	0	3	0	0	0	1
Business School	3	6.5	0	2	0	1	0	0
College—no degree	10	15.8	0	5	0	2	1	2
College—degree	17	31.5	0	1	0	2	4	10
Graduate school—no degree	31	60.2	0	8	2	1	12	8
Masters, M.P.H., C.P.H.	30	88.0	2	7	3	0	12	6
Ph.D., D.Sc., D.P.H., M.D., D.D.S.	12	99.1	2	5	2	0	2	1
Other	1	100.0	0	1	0	0	0	0

TABLE 10

Distribution of Statistical Workers by Type of Worker and Background in Mathematics

Type of Worker	*Total*	*Background in Mathematics*		
		No College Mathematics	*Through College Algebra*	*Through Calculus*
Total	*108*	*23*	*34*	*51*
I (Chief Statistician)	4	0	1	3
II (Registrar)	32	14	7	11
III (Chief Stat. & Reg.)	7	0	1	6
A (Assistant Registrar)	6	2	2	2
B. (Sr. Statistician)	31	5	12	14
C (Jr. Statistician)	28	3	10	15

sional Education, particularly when one realizes the strides that have been made in the field since those recommendations were made.

A similar picture exists with respect to the mathematics and statistics backgrounds of persons in the field. Of the 108 returns, 23 showed no college mathematics at all, and only 51 of the 108 went through calculus. Even among the analysts only 38 had had a course in calculus. It is desirable that at least an elementary course in calculus be required in order that there be some basis for understanding the nature of the reasoning that results in the development of statistical theory. In so far as formal background in statistics is concerned, 23 had no statistics courses at all and 36 depended upon other fields than public health for their statistics. Although the majority of those without statistics are registrars, the point has previously been made that it is desirable for the registrar to have had such a course.[1]

It is clear that the standards suggested by the Committee on Professional Education are not being met. A quotation from a recent article in *Public Health Reports*[2] is appropriate:

"In 1947 less than 25 per cent of the classes of statistical positions in the state health departments had requirements which even approached those recommended by the Committee in 1938."

CONCLUSIONS

While the present salary scale of statistical workers in state health departments is low, the committee feels that it is essential to develop a clear statement of the duties and responsibilities of each class of statistical position in the health department before salary scales or professional standards which might be suggested can be meaningful.

The committee also feels that one of the necessary steps to improvement of professional standards for statistical workers in public health is to make those who guide the undergraduate student aware of the needs of the field, and of the background desired in personnel wishing to enter the field. It is unrealistic to suppose that the mere setting of standards will overcome some of the gaps in the training of personnel entering the field if those who guide that training are unaware of these standards.

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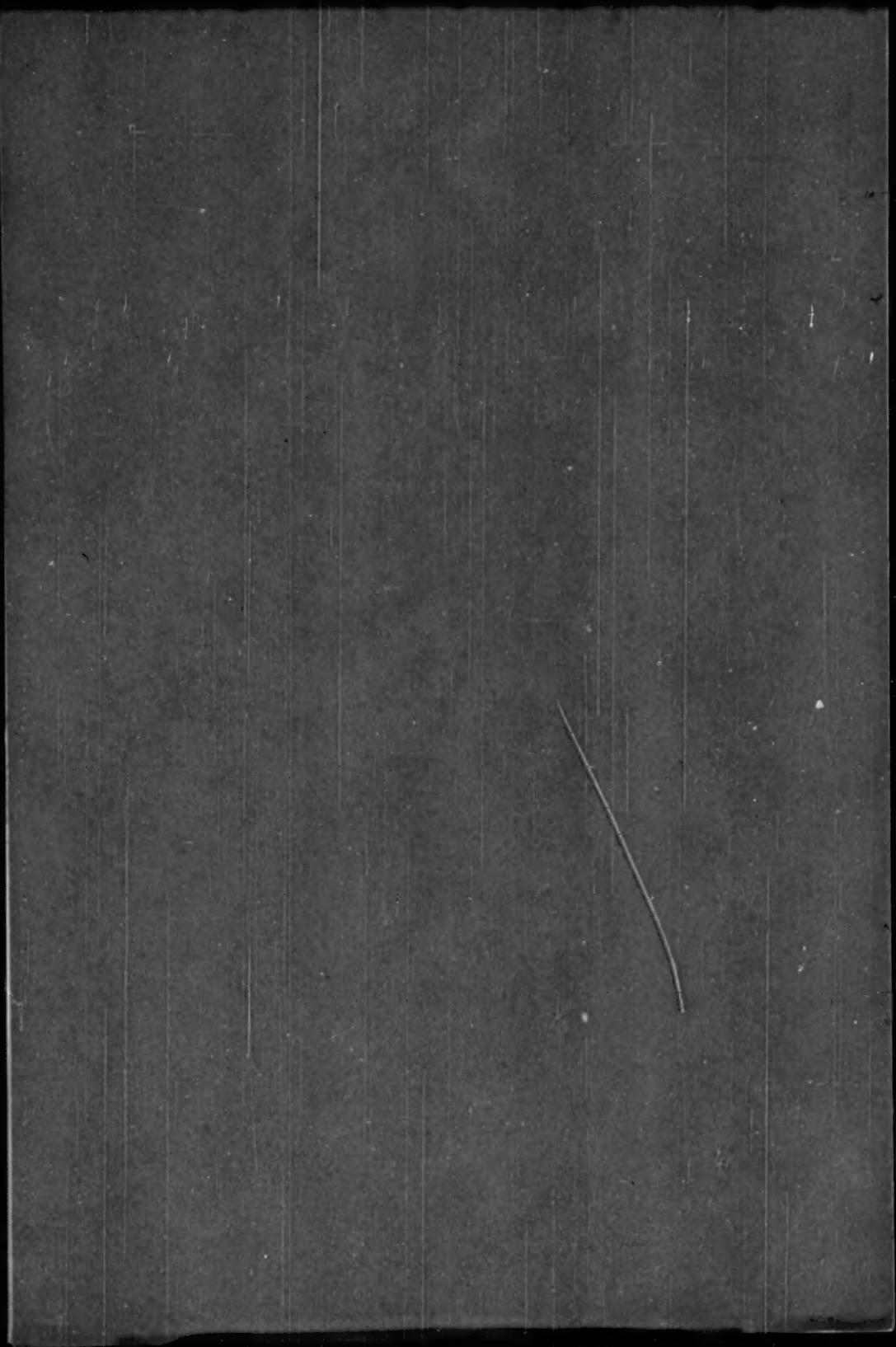
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